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NEWS IN BRIEF

Sanctions against Italy has meant an increase in exports from Australia of Lemons and canned Tomatoes.

:: :: :: ::

Grafted Walnuts, of varieties of merit approved after test at E. Malling, are being planted in England.

:: :: :: ::

To control "Jonathan spot" on mature fruit is to cool the fruit to 40 degs. F., or less, within a few days of picking.

:: :: :: ::

Despite the heavy crop of Apples in Western Australia last season, the official estimate for this season is "good to heavy."

W.A. is free from both codlin moth and black spot.

The value of central stationary spray plants was demonstrated this season, where installed in New Zealand.

:: :: :: ::

Tasmanian experience shows that Jonathans in prime condition stored at 36-38 degs. F. will keep till September or later in most seasons.

:: :: :: ::

The earliness of Granny Smith Apples on the Murrumbidgee Irrigation Areas of N.S.W. is appreciated, but it has been decided not to send any Grannies forward for export before February 15.

:: :: :: ::

The estimate for the Victorian Apple crop in 1936 is 2,250,000 cases, as compared with 2,085,018 in 1935.

Apple and Pear crops in N.S.W. for 1936 are lighter than in 1935, i.e., 1935, Apples 1,800,000 cases, Pears 346,000 cases. The 1936 forecast is for 1,180,000 cases Apples and 308,000 cases Pears.

:: :: :: ::

Early Apples marketed at Sydney early in December from the Hawkesbury district, included the varieties Allsopp, Carrington and Willie Sharp.

Later in December the varieties Mobbs Royal, Lord Nelson and Twenty Ounce were harvested.

PERSONAL.

Mr. B. Flewell-Smith has been appointed manager of the Committee of Direction of Fruit Marketing, Brisbane, in place of Mr. W. Ranger, who recently resigned.

EMPIRE EXHIBITION IN SOUTH AFRICA.

Johannesburg, September 1936, to January 1937.

An exhibition of primary and secondary products of the British Empire will be held at Johannesburg from September, 1936, to January, 1937. This date coincides with the Jubilee of the City of Johannesburg, and the aim of the exhibition is to illustrate the progress of the Empire over the past fifty years.

The Commonwealth Government has appointed Mr. H. C. Smart, C.B.E., of the London Publicity staff, as manager of the Australian section. Mr. Smart will undertake arrangements for the organisation of a suitable Australian exhibit on his arrival in Australia towards the end of this month.

PHENOMENAL ACHIEVEMENT!

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Sales this Season Exceed all Expectations

The Demand for the Highest Efficiency & Performance Ensures the Continued Success of the Harvey Machine

Further Victorian Successes

Largest Pear Washer in Southern Hemisphere
PROCESSES 6000 CASES PER DAY.

Largest Capacity PRUNE GRADER
WILL HANDLE 113 TONS IN 6 DAYS.

After examining your improved sectional grading element, the writer has been very impressed with the independent adjustable section in the design and the many advantages derived by the adoption of this type of grading bar. We wish to know if it is practicable for you to fit your grading element to the make of machine now in our shed. If this can be done please place on record our order for immediate delivery—Yours faithfully, (Signed) HAROURT FRUIT SUPPLY CO.

Harvey Grader Solves Tomato Growers' Problems

The Manager, Paterson & Co. Ltd., Perth, W.A.
Dear Sir,—

P.O. Box 167, Geraldton, 11th December, 1935.

Re HARVEY GRADING OUTFIT FOR TOMATOES.

The machine has been wonderful; I put 11,500 cases through it this year. It has easily paid for itself in wages, and I am sure I have got better prices through it so it is hard to say how much it has saved but I am sure it has paid for itself this year. Everyone who sees it thinks it is great, nearly all the growers have been to see it at different times, and some are talking of ordering machines.—Yours faithfully, (Signed) G. K. ALLEN.

D. HARVEY

Box Hill, Victoria

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Australian Apple Plantings.

Potential Increase of 22½ per Cent.

Publicity Campaign Advocated.

THE IMPORTANCE of an educational publicity campaign to increase the consumption of Apples was revealed by statistics at the recent meeting of the executive of the Australian Apple and Pear Export Council at Sydney recently. The figures are as follow:

Statistics, 1932-33.

	Total	Bearing.	% Non-bearing.	and Bearing.
N.S.W.	15,241	11,760	3,481	29.5
Vic.	31,662	26,114	5,548	21.0
Qld.	4,741	3,527	1,214	34.5
S.A.	10,446	9,156	1,290	31.5
W.A.	11,958	8,090	3,868	48.0
Tas.	26,224	23,234	2,990	12.5
Aust'lia	100,272	81,881	18,391	22.5

Growers would be wise to give this matter of Apple advertising adequate consideration. Advertising is a proved force. Results have been demonstrated in U.S.A., England, New Zealand, as well as in Australia.

A fraction of a penny per case would provide sufficient for the campaign, and growers would reap permanent benefits.

Personal.

Dr. G. H. Cunningham, of the Plant Research Station, Nelson, New Zealand, recently severed his connection with the New Zealand Government. Dr. Cunningham's researches have proved of great value to the fruit industry as well as to other primary industries, and an effort is being made to secure his return to the Government service.

Dr. W. J. Young, Associate Professor of Bio-chemistry, University of Melbourne, has been selected as the Commonwealth Government representative at the International Congress of Refrigeration, to be held at Holland next year.

Obituary.

Olinda Orchardist's Death.

Mr. Eric Hayes, a well-known orchardist, of Olinda, was felling a tree on his property on December 2, when, as the tree commenced to fall, it split, and a branch struck Mr. Hayes, breaking his neck.

He was buried in the Lilydale Cemetery with Masonic rites. Mr. Hayes leaves a wife and two young children.

BANANA RESEARCH.

Federal Grant of £1,575.

Next year the Federal Ministry will provide £1,575 for research work to aid the Banana-growing industry.

The Prime Minister (Mr. Lyons) said that it was intended originally that the equivalent of the Customs duty collected on Fiji Bananas should be devoted to assistance of the industry in Australia. Fiji, however, had not taken advantage of its full quota. The Customs duty on Fiji Bananas was 2/6 a cental, and imports of Fiji Bananas in three years amounted to only 31,520 centals. Under the Ottawa agreement Fiji's quota was 40,000 centals a year.

Wine Production in Victoria

Fewer Growers, Less Wine.

More Currants.

The Victorian Government Statist (Mr. O. Gawler) reported that wine made for the 1934-35 season was 1,276,176 gallons, including 504,120 gallons stated by growers to be for distillation.

The figure is the lowest for four years. The 1933-34 production was 1,691,391 gallons.

The number of growers in the industry was also the smallest for some years—2,509, against 2,553 in the preceding season. The area under vines, bearing, was 37,592 acres, against 37,385 in 1933-34.

Non-bearing Areas.

The non-bearing area of 3,588 acres was the largest for many years.

Grapes gathered were 8,239,660 cwt., against 3,579,045 cwt. in 1933-34.

The quantity of Currants produced, 176,023 cwt., was the best for many years, however, the figure for the preceding season being 149,519 cwt.

Sultanas were 514,209 cwt., against 592,581 cwt., and Lexias 78,532, against 86,555 cwt.



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The intense refining process to which NEPTUNE WHITE SPRAYING OIL is subjected, whilst imparting the correct rate of volatility that ensures a continuity of toxic film for a very long period, and the right viscosity that permits of easy spraying, entirely eliminates the harmful elements found in ordinary spraying oils.

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NEPTUNE WHITE SPRAYING OIL

Australian Apple & Pear Export Council

IMPORTANT EXECUTIVE MEETING IN SYDNEY.

SUCCESSFUL CONFERENCE WITH N.Z. DELEGATES :: FEDERAL GRANT OF £100,000 :: CONFERENCE WITH O.S.R.A. :: MR. G. W. BROWN FOR LONDON CONFERENCE :: PUBLICITY TO INCREASE AUSTRALIAN APPLE CONSUMPTION.

THE EXECUTIVE COMMITTEE of the Australian Apple and Pear Export Council had a strenuous time at Sydney during the week commencing November 25, 1935. Meetings were held each day, including Saturday, November 30.

Apart from the business sessions there were deputations to the Overseas Shipping Representatives' Association re freights, and to the Prime Minister re grant of £100,000.

The executive sat two days in conference with representatives of the N.Z. Export Control Board on the subject of joint export of Apples to U.K.

Saturday morning (November 30) was devoted to a conference with the N.S.W. Chamber of Fruit and Vegetable industries regarding a publicity campaign to increase the consumption of Apples. Meetings were held by courtesy, at the rooms of the Fruit-growers' Federation of N.S.W.

Conference With New Zealand.

There were present Messrs. J. B. Mills (chairman), and proxy for S.A. and W.A. shippers; G. W. Brown, Victorian Fruit Marketing Association, and proxy for S.A. growers; J. W. Blick and E. E. Herrod (N.S.W. Apple and Pear Export Association); C. O. Smith, J. H. Astell, A. J. Honey (Tasmanian State Fruit Board), E. Ross, J. P. Piggott (Tasmanian Fruit Shippers' Committee), H. W. Soothill (representing W.A. Fruitgrowers' Association), P. S. Chinn (Committee of Direction of Fruit Marketing, Brisbane, and R. E. Boardman, Secretary.

New Zealand Delegates: Messrs. H. E. Stephens (chairman N.Z. Fruit Export Control Board), R. Paynter, W. Benzies (Secretary to the Board), and J. A. Campbell (Director of Horticulture).

A telegram was received from Mr. A. E. Herring, regretting his inability to attend because of illness in his family, and appointing Col. E. E. Herrod to act for him in the matter of local marketing. It was decided to send a letter of sympathy to Mr. Herring.

After full discussion, and agreement was reached as to a mutual basis for the shipment of Apples to the United Kingdom during the months of March, April, May and June, with the reservation that the New Zealand consent must be subject to confirmation.

Varieties.

It was decided to recommend that the variety known in New Zealand as "Ballarat," and in Australia as "Stewart's Seedling," should in future be recognised as Ballarat.

The N.Z. delegates stated that the varieties mentioned at the Hobart Conference of the Apple and Pear Export Council (viz., Brownlee Russet, Parlin's Beauty, Simmond's Winter, Stark, Brighton, Frimley Beauty, Blenheim Orange, Spitzenberg, Willie Sharp, Lord Wolseley, Gravenstein and Pioneer), had been or were being deleted with the exception of two, which were being tried out, namely:

Kidd's Orange Red—a cross between Cox Orange Pippin and Jonathan, and Desert Gold (Golden Delicious).

:: :: ::

Following the agreement with the N.Z. delegates, the executive dealt with several other important items.

Federal Grant £100,000.

Mr. Astell said he had interviewed the Prime Minister, urging that the grant of £100,000 be made direct to Apple and Pear growers, and not used for other sections of the fruit industry, nor limited in distribution to "necessitous" growers. The Prime Minister was desirous of having the money put to constructive use and not "doled out" to the fruitgrower. He (Mr. Astell), however, had stood firmly on the ground that the grant was in lieu of freight reduction, and growers had spent the money on reworking and improving their properties.

Mr. Piggott, Mr. Blick, Mr. Soothill and Mr. Smith, spoke in favor of the grant having been given definitely in lieu of freight reduction, stating it should not be whittled down.

The chairman said that apparently the Agricultural Council had made recommendations, and it was not correct that a representative body as the Australian Apple and Pear Export Council should be overlooked. He gave details re A.O.T.A. meeting freight reduction on commodities other than fruit and the decision of the shipping companies to agree that should the Government rebate shipping taxation by around £125,000 on refrigerated tonnage, they would not press for the retention of this sum provided it went to fruit in lieu of freight reduction.

It was decided on the motion of Messrs. Ross and Smith.

"That this executive make representations to the Federal Government in favor of the grant being dealt with purely on an export basis."

Space Allocation.

Mr. Ross moved:

"That in the event of any State finding itself unable to fill the quota allotted to it such State shall notify the Council and such portion as it is unable to fill shall be redistributed by the executive of the Council amongst the States."

Mr. Soothill seconded.—Carried.

Mr. Ross then moved:

"In the event of any State being unable to fill the space allotted to it (after having accepted the space from the shipping company and the responsibility for filling it) the allotment committee, or other appropriate authority in such State shall not transfer the space to another State without first obtaining the approval of the Apple and Pear Council, with the exception of minor quantities of space: any distribution of space becoming available as above for filling in another State shall be made by or through the allotment committee or similar responsible body in that State."

Mr. Brown seconded.—Carried.

London Conference, 1936.

The chairman stated that Mr. Benies had informed of the receipt of a cable from their London representative, Mr. Turner, stating the London Conference of Empire fruit interests would be held in July, 1936.

The necessity for the attendance of an Australian delegate to the Conference was recognised.

Regarding finance, Mr. Astell said that his reference at the Hobart Con-

ference to a levy of 1/16d. beyond the 3d. agreed to should have been in the form of a resolution.

The chairman said that his distinct impression on leaving Hobart was that the extra 1/16th had been agreed to.

It was decided that the chairman send a letter to the State Associations in these terms.

It was further decided on the motion of Messrs. Astell and Soothill:

"That while the Council is asking the Government to collect 7/16d. per case on 1936 export to U.K., it is clearly understood that the amount for advertising remains as at present and the balance of the money is to be retained by the Council for the purpose of organising and arranging for representation overseas."

Delegate for London.

Mr. Astell moved:

"That Mr. G. W. Brown be appointed as the delegate for the 1936 London Conference, and that Mr. Ross be co-opted if possible."

Mr. Smith seconded.

Mr. Smith seconded.—Carried.

Apple Plantings.

With reference to the decision of the Hobart Conference to write to State Departments of Agriculture to discourage further plantings of Apples, Mr. Soothill said that from personal observation there had been increased Apple plantings in New South Wales, particularly on the Murrumbidgee Irrigation Areas. He suggested that in addition to approaching State Departments of Agriculture, information should also be placed before Rural and Agricultural Banks, the Water Commission, Lands Department, or other appropriate authorities: in addition to crops from established orchards, there was 22½ per cent. more young trees yet to come into bearing. He moved that letters be sent accordingly. Mr. Smith seconded.—Carried.

Interview With O.S.R.A.

On Thursday, November 28, delegates assembled at 8 Young-street, Sydney, to interview the Overseas

Shipping Representatives' Association. Mr. Duboise (O.S.R.A.) presided. Delegates were present from the executive as follow:—Messrs. Mills, Ross, Brown, Blick, Smith, Astell, Soothill, Herrod, Honey and Boardman.

Mr. Mills introduced the several delegates who put their case for freight reduction.

Mr. Duboise in reply said it was impossible to grant a general freight reduction. The rebate of 2d. per case on Apples would apply in the coming season under the same conditions as applied last season. Consideration would be given to a similar rebate on Pears. The term "Standard Pear Box" would be adopted for the case previously described as the "three-quarter case," and the freight would be 3/2 instead of 3/6. The O.S.R.A. would give consideration to granting the request as set out in the resolutions submitted for acknowledging the authority of the Australian Apple and Pear Export Council in relation to space transfers.

Deputation to Federal Government.

A deputation from the executive of the Australian Apple and Pear Export Council visited Canberra on Friday, November 29, 1935.

There were present: Messrs. Mills, Smith, Astell, Ross, Soothill, Herrod, Piggott, Blick and Honey.

The deputation interviewed the Prime Minister (Mr. Lyons), and the Minister for Commerce (Dr. Earle Page). Mr. Murphy, Secretary, Department of Commerce, was also present. The deputation was introduced by Senator Payne, supported by Senators Haynes and Sampson and Messrs. J. H. Prowse, J. H. Gregory, W. M. Nairn, Ms.P.

The submissions were that the Council had felt that the original grant had been related to the shipping position and intended as a reduction in freight. Suggestions had been heard regarding some other basis, and the deputation sought reassurance on this point, which concerned also future action in this regard. They also sought confirmation of the grant for 1935, which had been mentioned as £100,000 for Apples and Pears. Speakers submitted that any such grant should be distributed to growers pro rata on Apples and Pears exported from Australia in 1935, as only thus was the effect of freight reduction achieved. It was further submitted that such basis of distribution also conferred the best possible benefits upon the industry particularly in relation to re-working of trees and rehabilitation of orchards.

The Prime Minister in reply, recalled the original discussion in relation to freights and that this had been the

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basis of the original grant. At the same time he intimated that the Government could not look to making such a grant permanently on that basis, pointing out that the Government felt entitled also to relate the grant to the measure of prosperity in the industry. He suggested that 1935 had shown a definite improvement in the results over previous years, and hinted that that factor had influenced the reduction of the amount. He also pointed out that since the original discussion a substantial reduction of taxation had been made.

In relation to the method of distribution, the Prime Minister stated that the Government was anxious to ensure that any grant should be applied in the best possible way for the benefit of the industry. With that aspect in mind the matter had been discussed by the Council of Agriculture and the States had been asked to put forward any suggestions they might have with regard to this matter. Replies had been received from only two States, and telegrams had been sent seeking the opinion of the remaining States. The Prime Minister further intimated that whatever might be the opinions of the States, consideration would be given to the views put forward by the deputation with reference to the method of allocation. He stated that the amount of £100,000 for this purpose had been placed on the estimates and he hoped that they would be passed by the Senate that day.

Dr. Page concurred with the views put forward by the Prime Minister.

In the discussion, the Prime Minister suggested that a reduction in freight had been secured by the fruit industry in respect of the 1935 season, but the deputation pointed out that this was entirely related to special obligations to be fulfilled by shippers and had not in fact been secured by many shippers. The rebate therefore could not possibly be regarded as a reduction in freight, especially as shippers were put to a measure of extra expense in endeavoring to comply with the conditions attached to the rebate.

Local Marketing.

Executive met at 9.30 a.m. on Saturday, November 30.

There were present Messrs. Mills (chairman), Smith, Ross, Astell, Pigott, Soothill, Herrod, Blick, together with Messrs. Jenkins, Musgrove, Macdermott, Gurnett (N.S.W. Chamber of Fruit and Vegetable Industries), and R. E. Boardman, Secretary.

The chairman said the urgent thing was to do something for the coming season—any permanent scheme must be left for the future to decide. There would be no compulsory methods of finance, yet a moderate scheme should yield results which would justify increases later.

Mr. Herrod circulated copies of proposed alterations to local grading regulations.

Mr. Jenkins said a general tightening up of the regulations was desired, but this might take two or three years. He agreed with the necessity for quick action.

Mr. Soothill submitted memorandum of suggestions for publicity and moved:

"That whatever basis of finance be adopted it be a recommendation to the State organisations to be constituted for the coming year, the methods of publicity be broadly along the lines of the memorandum submitted."

[Note: This memorandum was published on page 11 of December "Fruit World."]

Mr. Musgrove seconded.—Carried.

In the discussions which followed, it was suggested that the campaign should run from February until August; that an organiser be appointed for interviewing and press work.

Mr. Jenkins said the services of the N.S.W. Chamber of Fruit and Vegetable Industries would be available for assistance.

Mr. Soothill moved:

"That State committees consider the possibilities of financing publicity by a collection of 1d. per case to be imposed by sellers or provided by growers' organisations, but that if such method cannot be implemented for 1936, that the State organisations be asked to arrange finance on a contributory basis as contemplated by the Council meeting."

Mr. Astell said he felt sure that Tasmania would agree to there being two grades for interstate trade, but three grades for local marketing.

Mr. Soothill suggested as a means of providing finance the inauguration of an excise or sales tax. It was decided to request the Apple and Pear

Export Council to take up this matter with the Federal authorities.

Federal Grant.

Mr. Soothill, referring to the deputation to the Prime Minister and Minister for Commerce, said that the Agricultural Council, consisting of the Minister for Agriculture in the several States, had apparently made representations regarding the allocation of the Federal grant. The whole of the money should go direct to growers on a per case basis.

On the motion of Messrs. Astell and Smith, it was decided to write to State Ministers for Agriculture, requesting that the full amount of the Federal grant of £100,000 be distributed (a) direct to growers who exported Apples and Pears from Australia in the 1935 season, and (b) that the distribution be on the basis of the number of cases so exported.

Votes of Thanks.

Cordial votes of thanks were accorded to the fruitgrowers' Federation of N.S.W., and their Secretary, Col. E. E. Herrod; to the new Tasmanian delegates to the executive. Messrs. Smith

and Astell; to the W.A. representative, Mr. Soothill; to the Producers' Markets Ltd., Perth, for making his services available; also to the President (Mr. Mills), and the Secretary.

In responding, Mr. Mills said that any success was due to effective team work with the delegates. He traced the evolution of the State Associations and the Council, and said there was no reason why the good work should not continue. In fact, this Council was giving a definite lead to Empire policy.

Social Functions.

The Apple and Pear Council, in conjunction with the Fruitgrowers' Federation of N.S.W., tendered a complimentary dinner to the N.Z. delegates at the Pacific Hotel, Manly.

Facilities were also provided for the N.Z. delegates, in company with interstate delegates, to enjoy an aeroplane flight over the Sydney Harbor.

The N.S.W. Chamber of Fruit and Vegetable Industries entertained the Australian and N.Z. delegates at lunch at Adam's Hotel, Sydney.

Due appreciation was expressed for the entertainments provided.

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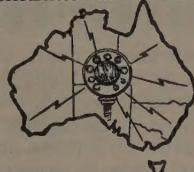
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Interstate News & Notes



Fruitgrowers' Federation of N.S.W.

EXPORT OF ORANGES AND TRADE WITH NEW ZEALAND :: APPLE AND PEAR STANDARDS FOR LOCAL MARKETING :: SUCCESSFUL PUBLICITY CAMPAIGN FOR ORANGES.

A meeting of the Board of the Fruitgrowers' Federation of New South Wales was held at Sydney on December 12 and 13, 1935.

There were present General J. Heane (in the chair), Messrs. E. Ray (Bathurst), F. B. Mackenzie (Kurrajong), H. C. Matheson (Grose Wold), P. W. James (Dural), T. A. Haerse (Liverpool), A. S. Brown (Ourimbah), A. E. Lillicrap (Mangrove Mountain), A. J. Taylor (Warkworth), A. E. Herren (Batlow), K. H. Todd (Griffith), L. T. Pearce (market representative), C. G. Savage (Director of Fruit Culture, Department of Agric.), and E. E. Herrod (Secretary). Apologies were received from Messrs. Tonking, Tester and Martyn.

Export of Oranges: The President and Mr. Brown reported that a deputation waited on Dr. Earle Page, Minister for Commerce, and Mr. H. V. C. Thorby, Assistant Minister, on November 18. The deputation asked specifically that the Government should return to the industry the amount saved to the Government under the guarantee due to the incidence of the All Risks Insurance.

After discussion, the deputation was informed that it would be impossible for the Government to accede to the request, but the position would be investigated to devise other means of giving further assistance, possibly to the same extent as was involved in the deputation's request.

Citrus Advisory Council.

After a lengthy discussion regarding the draft constitution, the following motions were carried:

"That the Board is opposed to the imposition of any levy or exercise on growers for the purpose of the creation of a fund for assisting export of Oranges to the United Kingdom."

"That in respect to the draft constitution under discussion the Federal Government be asked to submit any proposals of this nature to the State organisations before anything is done by the Government."

Local Fruit Marketing.

Following the decisions of the recent Hobart Conference, it was decided to recommend:

- That the standard of quality grade in respect to Apples and Pears especially moving interstate be raised.
- That such standards as are adopted be thoroughly enforced by the respective State officers.
- That it be a further recommendation to the States that a more rigid grade quality be thoroughly applied to the such States home market.

Publicity Campaign—Apples.

After discussion regarding the recommendations of the Apple and Pear Council Conference at Hobart, it was decided that a joint committee con-

sisting of representatives of growers and distributors be formed for the purpose of administering the interstate fund proposed to be raised for a publicity campaign covering the marketing of Apples in Sydney.

Local Apple and Pear Grade Standards.

The proposed amendments to the Apple and Pear grade standards for domestic markets were adopted in principle and recommendations were adopted thus:

Apples.

"That the adoption of the first two grades 'Extra Fancy' and 'Fancy,' the specifications to be based on the export standards, and to include a schedule defining a conservative percentage of color requirements."

"That 'Good' grade be adopted in lieu of 'Plain' grade and that the maximum blemish be increased from $\frac{1}{2}$ in. to $\frac{1}{4}$ in., and that 'D' grade be eliminated."

"That 'Good' grade be amended to provide that Apples of $2\frac{1}{2}$ in. and larger be allowed to carry blemish up to $\frac{1}{4}$ in. on all the fruit of the grade provided that no individual blemish shall exceed $\frac{1}{4}$ in. in diameter and that blemishes shall not seriously detract from the appearance and condition of the fruit."

"That in order to make some provision for hail marked fruit a new

grade be recommended between 'Fancy' and 'Good' similar in specification to 'Fancy,' but hail marks to $\frac{1}{4}$ in. be allowed on all the fruit provided that no blemish seriously interferes with the appearance or condition of the fruit and that it is suggested that the grade be called 'Standard'."

"That it be a recommendation that 'Factory' grade be left as at present."

Pears.

"That in the 'Extra Fancy' and 'Fancy' grades the minimum size allowed be 2 in. and in 'Good' grade $1\frac{1}{2}$ in."

"That in regard to the blemishes allowable it be recommended that 'Extra Fancy' be unblemished, 'Fancy' be allowed blemish to $\frac{1}{4}$ in., 'Good' be allowed blemish to $\frac{1}{4}$ in., in other respects the grades be similar to the export grades, provided, however, that a tolerance of 10 per cent. by number in each packed case should be allowed in all grades for human error on the understanding that the tolerance is not regarded as providing for the admission of inferior fruit, but merely to provide a tolerance for human error."

Export Markets.

Mr. G. J. Evatt, Irrigation Commissioner, gave an interesting review of his impressions in respect to the markets in the United Kingdom for fresh fruits.

Rail Freights and Bulk Loading.

The Railways Dept. notified that they could not agree to the request for a flat rate per weight regardless of the size of the consignment—which would mean the cancellation of minimum loading rates.

Mr. F. B. Mackenzie contended there were distinct possibilities in the original proposals, and expressed disappointment at the decision.

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Advertising Oranges.
The Secretary, Mr. Herrod, presented details of successful Orange advertising campaign.

Leeton: A fierce storm, accompanied by hail, lightning, thunder and torrents of rain, lashed Leeton on December 3. Some heavy railway trucks were derailed, buildings were unroofed, and many trees uprooted, others snapped. Many fruit and Tomato crops suffered severe damage.

CARDBOARD FRUIT CONTAINERS.

Variable Results of N.Z. Tests.

Tests were carried out with Apples stored in cardboard boxes in New Zealand. Results were variable. In some instances the fruit opened up better than the check fruit in wooden boxes. The opposite experience was also noted. Buyers objected to the cardboard box, because of the difficulty of opening in the auction markets. There was less bruising in transit with cardboard boxes, probably due to more careful handling and less pressure when lidding.

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Batlow and Fruit Marketing Board

(To the Editor, "Fruit World and Market Grower.")

Sir,—The "explanation" of the Batlow meeting and its attitude calls for comment.

First, it is necessary to speak of that "Fruitgrowers' Federation" of which the meeting approved, its origin and history. It was at first, a voluntary organisation, which failed to attract growers, and could not pay its salaries and expenses. The orchard tax was then imposed, and most of the proceeds handed over to the Federation, despite an express promise from Mr. Chaffey, the Minister for Agriculture at the time, to a deputation that a poll of growers would be taken before the measures were passed into law.

All who are not cremated will be "cribbed, cabined and confined" by the boards of our coffins for long enough, so I do not hanker after any boards that would restrict any of my ethically lawful activities whilst I am alive. Boards of control form the coffin of liberty. The movement for such boards in rural industries is prompted by the same spirit that has materialised in Fascism, Nazism and Sovietism elsewhere. It is an attack by the self-seeking, aggressive few on the mostly submissive many's rights and liberty.

With that blessed word "organisa-

tion"—now tainted and fly-blown through misuse — on a slogan, our petty Hitlers are trying to regiment rural industries and reduce those occupied in them to peonage. We are not all so abject of spirit as to tamely submit.

Occupational and industrial conscription are not far removed from military conscription. And—God help us — the movement is largely sponsored by the "country" party. Save us from our friends!

What is this alleged Fruitgrowers' Federation? A rough classification of its "affiliated organisation" taken from its own official list—all of which help to elect delegates and board members, shows:—

Fruitgrowers' Associations	48
Combined Fruitgrowers' and Progress Assocn.	2
Producers' Association	1
Agricultural Bureaux	32
Federation of Progress Assocns.	1
Progress Assocn. and Fruitgrowers' Co-op. Soc.	1
Parents' and Citizens' Assocns.	4
Bulk Loading Rural Co-op. Societies	2
Packing House Cos. and Societies	4
A.H. & I. Societies	3
A.P. & H. Societies	3
P. & I. Society	1

P. and A. Society
Assoc. Co-op. Cos. and Societies—13
or 14

More than half of these organisations have no more right to speak for fruitgrowers, as such, than have the Oddfellows or Rechabites.

How does the Federation spend the orchard tax funds it receives? Its last year's accounts, passed by the general conference in less than five minutes, show £4,527 was used for salaries and expenses, and £334 for anything of direct benefit to the industry.

The delegates at the general conference, who approved the Fruit Marketing Organisation Bill for the establishment of board control, also carried a resolution from the Irrigation Areas, that "any form of board control for fresh fruit marketing in New South Wales is impracticable and objectionable." It seems incredible, yet it is so reported in the official organ of the Federation, and is true. One may judge from this that in intelligence the Federation conference would rank far below C3. One wonders why the Federation's board, when it submitted the Bill to the Premier for approval, did not also submit the conference's condemnation of any form of board control.

The statement issued by the conveners of the Batlow meeting was misleading. Fruitgrowers, like all other rural industries in N.S.W., come under the Primary Products Marketing Act. Whilst that position endures we are safe from board control; a huge majority would vote against in the poll necessary under the Act before a board could be constituted. The Fruit Marketing Organisation Bill was an attempt to dodge the provision of that Act, and procure Federation control without a poll being taken. The Federation bitterly opposed the taking of a poll on its Bill, though the Bill itself, after the Federation had excluded three-quarters of the growers—the small men—from participation in a vote, provided for polls to be taken, if a large number of growers demanded it, on any of the "directions" of the Federation — all the trouble, loss of time and expense of organising against any of the decrees being placed on objectors. A pretty scheme! The Federation did not propose to relinquish the orchard tax paid by the men whom it excluded from voting.

The storm of indignant protest which swept over all fruitgrowing districts of the State warned the Government. It refused to accept the Bill.

The position now is: the Federation's claim to represent the growers is utterly discredited; the fruit-grower's money is wasted. Growers have been compelled by law to provide the money—no small sum—used by the Federation, and also they have had to find funds necessary in the conduct of the defence against the Federation's aggressions.

In spite of—or, should it be, because of — these facts the Batlow meeting resolved "that continued support be given to the Federation"; "that the meeting favors the proposed Bill"; but, it "strongly objects to any marketing board for Apples and Pears." That is, the meeting

approved the Bill as long as its operation was confined to the other fellow! There is a grimly humorous aspect to the bizarre position the meeting took up, of which it seemed unconscious.

The temporary shelving of the Bill will not "allow feeling to subside."

It is now clearly recognised that the source of the Federation's power lies in the control of the iniquitous orchard tax funds. If, as should be the case in a free country, the Federation were forced to maintain itself by voluntary contributions no one could or would object to its existence; but, whilst growers are forced against their will to finance an organisation of which they disapprove, and whose activities they resent as mischievous, the feeling will not subside.

Growers now ask the Government to help them in the only way it can do so, that is by the removal of the orchard tax burden.

A request comes from the President of the Federation, and others, asking for "constructive" criticism of the Bill, as against "destructive." The bleat is common from all upholders of existing or proposed abuses and fallacies. It is a fallacy itself. A valid criticism is always both destructive and constructive. Destroy fallacy, and you construct truth. You cannot negate one proposition without affirming another opposite. Criticise "control," you affirm liberty; expose dishonesty, and you "construct" honesty.

In conclusion, I would point out that neither packing houses nor agricultural bureaux should have any standing in these matters. They are not fruitgrowers' associations, and should not be included in the Federation. It is pertinent, too, to point out that many growers are financially tied to packing houses, and do not care to come out in public in opposition to their creditors.

Yours etc.,
CHARLES KAISER.
Sackville North, N.S.W.,
November 25, 1935.

[Editor's Memo.—As the columns of the "Fruit World" are open to correspondents, this letter is published, and a similar courtesy is extended to those who desire to reply, or to others who agree with our correspondent. This letter has suffered deletions here and there: some comments were made which might be termed "extra vigorous," and the Editor, in his wisdom or unwise, but with goodwill, used the blue pencil. However, the writer has signed his name, and his letter is all the more value on that account.

After many years' experience, and in trying to find a wholesome philosophy of life, we believe it is possible for men to hold diametrically opposed views and yet in the end to find a kernel of good somewhere. It is always wisdom to at least try and see the other fellow's viewpoint even if you cannot agree with him.

We have always believed in organisation in the fruit industry and have honestly tried to assist in that direction.

The "Fruit World" has nothing but goodwill for all engaged in the industry, and trusts that even out of the present "scoop," the good will emerge.]

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South Australia.

MID-MURRAY NOTES.

Early Season for Apricots and Vines — Seeking a Parasite for the Codlin Moth — Disease and Pest Control — Citrus Crop Shaping Satisfactorily — Importance of Covering Vine Cinture Cuts with Waxed Cloth.

(By Our Special Correspondent.)

Renmark, December 19, 1935.

UP TO THE PRESENT TIME we find our vine fruits well in advance of the past few years; this is also the case with Apricots, the early varieties, such as Oullins, are nearly all picked. The Moor-parks, however, are now just coming to maturity, and a few more warm days will see the picking in full swing. Some very fine Apricot crops will be harvested this year, and this is particularly gratifying in view of the satisfactory outlook for this particular variety of dried fruit.

Nearly all our vine and tree fruits are a week to ten days ahead of last year; this showed itself in the first instance in an early bud burst, to the extent of about ten days, and in the cincturing of Currants; this advance has kept to about the same comparison. Currants are now coloring in many places, which, at this date, indicates early picking. Every grower likes an early season, as so much depends upon making use of the good weather while it lasts during harvesting operations. With a late start in harvesting Sultanas, in particular, there is a danger of a break in the weather occurring during the latter part of harvesting operations, and, consequently damaging the color. The past few drying seasons have been particularly trying in this respect, but, given a week to ten days earlier start this year, as present indications show, there is a better chance of obtaining a better quality for our fruit.

Since the formation of an association of Pear growers to make a spirited attack on the codlin moth in the Renmark area, a good deal of interest is being shown by growers on the possibility of defining moth flights and general observations of useful parasites. Two local growers (Mr. Charlie Cramp and Mr. Jack Johnson) have been particularly active in this respect, and both making independent statements that a certain type of wasp is responsible to a great degree in picking off the grub as it is working its way into the fruit. Mr. Johnson claims to have observed this wasp at work, as it examines each single fruit and clusters of fruit in a split second and passes on from Pear to Pear in search of the young codlin grub, and when found takes immediate possession.

No doubt the codlin moth, like all other form of insect life, has its natural parasites, but, up to the present time, it has defied science to find one capable of making an appreciable inroad into its breeding capabilities. Mr. Cramp claims to have found centipedes preying on the larva (inside the cocoon) where it hibernates under the bark during the winter months. By penetrating the cocoon and extracting the juice from the grub it dries up. These observations are made by practical growers, conse-

quently have no scientific backing, but they are nevertheless very interesting, as it is often through the observations of our practical growers that science has been led into a channel of investigation which has eventually become extremely valuable.

Growers in the River areas are sometimes troubled by the loss of an occasional vine or a few vines in a season without any apparent reason. It sometimes happens that after having produced a normal crop the preceding year, the vine fails to shoot in the following spring, and on examination is found to be dead. In other instances in the middle of the growing period the vine leaves become yellow and wilt, while the crop is in process of maturing, and eventually dies. This usually occurs in a deep rich soil of high fertility, which makes this phenomena all the more puzzling. The cause may, however, be what is described by Perald as apoplexy or stroke, and in his "Treatise on Viticulture" makes the following comments:

"As the name suggests, this disease appears suddenly, through the end of a shoot and its leaves suddenly wilting. Sometimes this happens only to a few, and sometimes to all the shoots on the same arm or to most of the shoots on the vine. Within a few days such shoots and the whole vine may be dead. Sometimes only one arm dies. It is best to dig up such vines and replace them with others. The disease is caused through the vine or shoot evaporating more water than can be taken up in the same time from the soil. Thus it occurs when dry, hot weather suddenly follows upon a cool, rainy early summer. It is of most common occurrence where the subsoil is wet. It is always only a few vigorous vines that are thus affected here and there in the vineyard. According to Viala it occurs everywhere, but is most common on cool, wet, deep soils, e.g., wet, sandy soils and fertile alluvial river soils. The hot and dry Sirocco (wind) sometimes causes it in Algeria."

Some ten years ago a Block E grower lost enough vines to cause him some consternation, but the dead vines, on being thoroughly examined microscopically, no disease could be found, and on planting new vines in places where the old ones had died he has been able to re-establish them successfully.

On rare occasions do we have a visitation of the Rutherglen Fly, and while there are a few scattered about on this area, they have not reached plague proportions. In the Lyrup irrigation settlement, however, situated about seven miles from here, there is a very bad infestation, and they have concentrated their energies to the Apricot crop principally, and, as

the Apricots are on the verge of ripening this fly has proved a severe pest. The Apricot orchards are extremely well kept, and no weeds whatever can be found in them, and the fly has made direct for the fruit. The growers affected are using smudge fires and sulphur fumes in an endeavour to drive them away. There is a belief among growers that, owing to the recent high river the swamp lands in close proximity to the settlement have afforded a breeding ground for this pest, and as the fruit is now almost ripe it is impossible to use a preventive spray, which may possibly taint the fruit, so that combating the pest at the present time becomes a difficult task.

The citrus crop has not met with the many setbacks that affect the setting of the fruit up to date, and there are indications of a very satisfactory crop showing on the trees. While speaking to a citrus grower with 40 years' experience recently, the controversial subject of bud selection versus climatic conditions affecting the quality of the Washington Navel Orange came up, and, in his opinion, the strip of land from Mildura in Victoria, to Waikerie in S.A., so closely resembled the climatic conditions where the best Californian Oranges are grown, that outside this area it was hardly possible to produce Oranges resembling the best Sunkist Californian Orange. However, to test this theory trees from selected buds had been forwarded to different localities in Australia, and when they are of full bearing age some authentic information would be available.

A species of tree cricket has been more than usually active in certain citrus groves this year, and has attacked the young fruit when it was about half an inch in diameter, eating its way right into the heart of the fruit, and in other instances chewing through the outer skin and into the white pith only, but doing quite enough damage to materially mark the Orange when matured.

The subject of skin blemish on Oranges has exercised the minds of citrus growers for many years past, and on this matter Dr. Davidson, of the Waite Research Institute of Adelaide, has done some useful research work, which is published in Bulletin No. 270 of the Department of Agriculture of S.A. Before these investigations

were made it was popularly thought among citrus growers that a great deal of the surface skin injury was due to thrips, but on this point Dr. Davidson says:

"There is no definite evidence that Thrips imaginis does feed on young Orange fruit, although it is not improbable that to a small extent it does so. One or two isolated fruits have been found with a ring scurf round the calyx end closely resembling fruits which could be considered as due to typical thrips injury, but the few blemished fruits which could be considered as due to thrips injury, based on external observations in April, 1932, show that they are not important in this respect."

The comparative effect of adequately protecting the

Currant vine after cincturing has been clearly demonstrated this year by glancing at the cincture cut a few weeks after the operation has been performed. In cases where the strip of bark has been removed and left unprotected the gap remains open and unbridged by the newly formed bark, but where the cincture cut has been protected by a strip of waxed cloth, it does not take very long for the cut to become completely healed over, and leaving no weakening effect to the vine.

Any cincturing tool which gouges out strips of wood below the cambium layer is to be thoroughly condemned, and there are a great many in use.

The effect of cincturing is to a certain extent a weakening one, but it is so gradual that it takes 20 or 30 years for this weakness to become apparent. On the other hand, however, if the cincture cut is covered over immediately after being done with a protective strip of waxed cloth then it will materially add to the effective life of the vine.

I know from experience that any delay in cincturing, such as would occur by the added labor involved with the above operation, is never a welcome suggestion, but I also know from experience that it is cheaper to spend a few moments on each vine once a year than having to rejuvenate them after 20 or 30 years.

With the Editor's permission I would like to send a personal greeting for the New Year to all readers of this page, with the hope that 1936 will bring you all a good crop of fruit and good prices.—Nemo.

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South Australian Fruit Marketing Association.

The monthly meeting of the executive of the S.A.F.M.A. was held at Adelaide on November 29.

There were present H. J. Bishop (President), J. S. Hammatt, R. G. Hannaford, A. G. Strickland, F. B. James, R. O. Knappstein, M. G. Basey, H. N. Wicks, D. W. Hannaford, M. Vickers, E. S. Mason, A. R. Willsmore, R. S. McDougall, D. Norsworthy, G. Mack, H. C. Austin, P. R. B. Searcy, R. A. Cramond, G. Quinn, and the Secretary. Apologies were read from Messrs. J. B. Randell, A. O. Petersen.

Finance.

Financial statement showing balance in bank £895/8/7, was submitted by the Secretary and received.

Correspondence.

Letters from Australian Apple and Pear Export Council of November 7, 12, 20 and 25, enclosing report re U.S.A. Apple crop for 1935, litigation re Pear export, re "Standard Pear Case" and pre-cooling Pears, matur-

ity of fruit, dates for shipment of fruit, enclosing copy of report re Canadian fruit production, enclosing report of Australian Overseas Trade Publicity Committee and report by Mr. A. E. Hyland, London Director of Australian Trade Publicity Department.

Letter from Mr. J. B. Mills, agreeing to act in conjunction with Mr. G. W. Brown as delegate for this Association at the Conference with the New Zealand Board of Control held in Sydney on November 25, and stating that he was bearing in mind letters received from the President, Mr. H. J. Bishop, in regard to amelioration of quota for S.A.

Letter from Mr. F. K. Godfrey representing Messrs. Clements and Marshall Pty. in Tasmania, lodging a provisional application for space for the coming season.

Pear Litigation.

It was resolved to write the Batlow Packing House asking for details

to enable members to form an opinion in regard to the matter.

Fruit Exporters' Association.

An application dated November 28, was received from the Fruit Exporters' Association of S.A., formally applying for affiliation with this Association. After considerable discussion, Mr. G. Mack moved, and Mr. R. S. McDougall seconded:

"That the application for affiliation from the Fruit Exporters' Association of S.A. as per letter dated November 28, be granted."

Mr. R. O. Knappstein moved and Mr. R. A. Cramond seconded an amendment:

"That the matter be deferred until the next meeting to enable more information to be obtained."

After further discussion in which Mr. McDougall again emphasised the desire of the new Association to work in harmony with this Association, the amendment was put to the meeting and lost. The motion was then put to the meeting and carried.

Freight Committee.

The question of the best manner to allocate freight space for the coming season lead to a very lengthy dis-

cussion. A number of suggestions were made by various members in which it was particularly stressed that the S.A.F.M.A., which was affiliated with the Australian Apple and Pear Export Council, had been recognised by both the Federal and State Governments as the official body representing the industry in South Australia. Finally, the following resolution was moved by Mr. P. R. B. Searcy and seconded by Mr. G. Mack:

"That the South Australian Fruit Marketing Association invite all fruit shippers to attend a meeting to consider matters in respect to freight."

This was carried.

Wharfage.

Mr. A. R. Willsmore stated that the Produce Department had carried out tests in view of the decision of the Harbors Board to charge wharfage in the future on a weight basis instead of measurement. It was found that the average weight of Apple cases was 49 lbs., equalling 45 cases to the ton, while in the case of Pears the average weight was 45 lbs., equalling 50 cases to the ton, and it was resolved that the Secretary write the Harbors Board giving this information and asking that wharfage should be on this basis.

Codlin Moth Control.

Mr. H. N. Wicks reported that at the meeting of the Research Subcommittee, the chief matters discussed were codlin moth control, and arsenical residue on Apples, and the Committee were indebted to Mr. A. G. Strickland for the assistance he had rendered in this matter.

Mr. Wicks stated that as the result of the recent hot weather there was now a peak period of emergence of codlin moth, and growers were strongly advised to apply a cover spray of arsenate of lead or white emulsion immediately.

Fruit and Vegetable Grading Regulations.

Grade and Case Standards.

Following legislation passed in Sth. Australia during 1934, Fruit and Vegetable Grading Regulations have been gazetted in South Australia. These regulations prescribe methods of packing and presenting fruit for sale, with the object of eliminating "topping," and the sale of fruit excessively blemished or affected by disease. Grade standards in general conformity with those extant in Eastern States have been proclaimed for certain fruits.

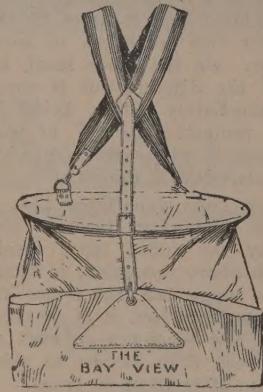
During the present session of Parliament, amendments have been made to the Sale of Fruit Act. This Act deals particularly with the use of standard containers for the sale of various fruits, and the amendments have been made with the object of overcoming certain difficulties inherent in the Act. As the Act now stands, it will be possible to insist that all but bona fide factory fruit shall be sold in one or more standard cases.

ANALYTICAL LABORATORY.

The laboratories of O. A. Mendelsohn and Associates at 509 Collins-street, Melbourne, established 15 years, were recently destroyed by fire. The firm has now entered its new premises at 391 Flinders-lane, Melbourne, the new laboratories being thoroughly equipped on modern commercial lines.

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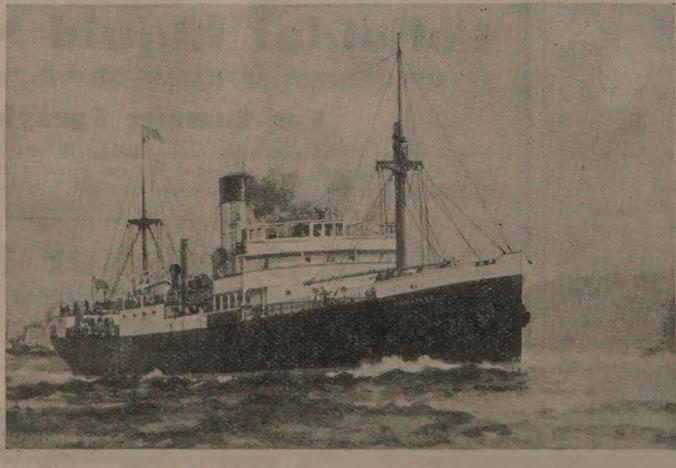
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VICTORIA.

THE AIREDALE ORCHARDS.

MERRICKS NORTH, NEAR RED HILL,
Victoria.

THE AIREDALE ORCHARDS, at Merricks North, near Red Hill, Victoria, are situated on the southern portion of the Mornington Peninsula on an eminence overlooking both the Port Phillip and the Western Port bays. Here 80 acres are devoted mainly to Apples, the principal varieties being Jonathan, Rome Beauty, London Pippin, Granny Smith and Democrat.

The Airedale Orchards are owned by Mr. Geoffrey W. Brown and Major Murray Jones. Mr. Brown is in charge of the property.

For pollination purposes several varieties are interplanted. The orchards are divided into eight to 12-acre blocks intersected by windbreaks of *Pinus insignis*. In the Jonathan blocks the pollinating varieties are Yates, Duke of Clarence, Granny Smith and Rymer. This provides for early and late blossom—Yates and Duke of Clarence being the earliest, followed by Granny Smith, with Rymer the latest to bloom. The Rymer variety is in course of being worked over. In some sections the pollinating varieties are in single rows and in other sections double rows—for instance, in the Granny Smith block there are four rows of this variety, with double rows of Jonathan; in another block there are two rows each of Democrat and Granny Smith.

The orchard is tile-drained throughout. The soil is of the typical deep red volcanic character, for which this district is famous. High quality, well-colored fruit is produced.

For manuring Mr. Brown finds it of advantage to plough under green crops of Field Peas, fertilised with superphosphate and sulphate of ammonia. Enterprise has been displayed, however, in arranging for manorial experiments in co-operation with the Department of Agriculture.

Spraying tests are conducted in conjunction with Imperial Chemical Industries Ltd.

Among the equipment used are Harvey's ploughs and Cletrac Tractor.

Generally speaking, about two-thirds of the crop is exported each year, the bulk of the remainder being cool stored in the co-operative cool store at Red Hill, of which Mr. Brown is chairman. The export pack is put up on the property, Canadian type imported cases being used exclusively, with a green AERO label. A large Lightning Grader is installed in the packing shed.

... : : : :

Mr. Brown is president of the Victorian Fruit Marketing Association. He was the delegate from the Australian Apple and Pear Export Council to the Empire Fruit Conference at London in 1934, and has again been selected for this honored position when the conference reassembles at London in 1936.

Harcourt: Growers had a good season with their Cherries... The crop was the best for many years, and satisfactory prices were realised.

FRUIT DEPOT BURNT.

£3,000 Damage at Ballarat.

Damage estimated at more than £3,000 was caused early on December 20, when fire destroyed Mr. Walter Bryant's wholesale fruit depot and two motor trucks, a horse lorry, fruits stores, and equipment, at Peel-street North.

The property, stock and fittings and equipment were insured.

HARCOURT FRUITGROWERS' PROGRESS ASSOCIATION.

At the annual meeting of the Harcourt Fruit Growers' Progress Association, a satisfactory balance-sheet and report was presented by the directors. It was shown that 25,000 cases were packed in the association's shed last season for overseas export. Fruit purchased amounted to £2,346, while £1,225 was paid out in salaries and wages. Preparations for supplies to growers of various requisites for the coming season are well advanced.

Mr. J. H. Ely, who has been chairman of directors for many years, has retired, and was thanked for his past services. Directors elected were:—Messrs. G. Douglas, H. M. McLean, K. Eagle, R. Hankinson and T. Robins.

PRIMARY PRODUCERS' MARKETING ACT.

Onion Growers' Petition.

On a petition being presented by 557 Onion growers, the Victorian Minister for Agriculture, Mr. Hogan, said that Onions would be proclaimed a commodity under the Act, and arrangements made for a poll.

Potato growers are arranging for a petition to be brought under the Act.

BROADCASTING.

Under the auspices of the Horticultural Division, Victorian Department of Agriculture, the following broadcast talks will be given over Station 3AR, Melbourne, on Friday evenings, commencing at 6.48 p.m., thus:—

January 3—Inter-cultivation of Potato Crop, by Mr. J. T. Ramsay, Potato Expert.

January 10—Picking Fruit for Cool Storage and Export, by Mr. F. M. Read, M.A.Sc., Chief Inspector of Horticulture.

January 31—The Coming Fruit Export Season, by J. M. Ward, Superintendent of Horticulture.



Mr. G. W. Brown on his "Cletrac" Tractor at the 80-acre Airedale Orchard, Merricks North, Vic. Others in the picture are Messrs. R. Wadeson (Orchard Supervisor), N. W. Soothill (W. Aust.), and F. R. Mellor (a V.F.M.A. shipper delegate to the Australian Apple and Pear Export Council).

TASMANIA

Berries, Passionfruit, Apples and Tomatoes Fruit Juices.

By P. H. Thomas, Chief Horticulturist, Tasmanian Dept. of Horticulture.

AMONGST THE MANY USES that our fruits may be put to is the manufacture of fruit juices. These may be used in the preparation of cordials or for flavoring confections, and they are invaluable to the housewife for general culinary purposes.

During recent years an increased demand has been in evidence for supplies of fruit juices. Large proportions of the crops of Loganberries and Raspberries are now being utilised for the manufacture of fruit beverages, which are replacing alcoholic liquors.

The principal dietetic value of most fruits lies in their juices, and apart from their refreshing qualities as a beverage their general daily use will promote good health, especially during the seasons when fresh fruits are not readily obtainable. This article is devoted particularly to detailing a simple and effective method of preparation of fruit juices,

which may be carried out on commercial lines by the small fruitgrower. The extent of operations will be controlled by the most profitable means of disposal of the crops. In times of glut the manufacture of fruit juices will provide a valuable outlet for surplus crops, especially as the product, properly prepared and bottled, will keep in good condition for a considerable period. The fruit juices most in favor are those prepared from Loganberries, Raspberries, Black Currants and Tomatoes. Other fruits that may be processed, and

that are in demand, are Mulberries, Strawberries, Red Currants, Passion Fruit and Blackberries. An Apple juice may also be manufactured on the same lines that will have a low alcoholic content.

Preparation of Fruit.

The main essential in preparation is to use only ripe fruits. This is important. The size and quality of the berries will not have a great effect on the product, but under-ripe or semi-decaying fruit will produce either a colorless, insipid juice or one that is vinegary and unpalatable. The berries are crushed thoroughly in a clean barrel, which should have been previously sterilised with steam or boiling water. In order to facilitate pressing it is advisable to heat the crushed pulp to about 150 deg. Fahr. before treating. This should be carried out in an enamel, copper or aluminium vessel, as the acid in the juices will corrode iron and spoil the product.

The pulp is then strained, while warm, through a gauze bag or specially constructed filter. The latter may be made by fitting a false bottom composed of thin slats into a sterilised cask and placing a sheet of copper gauze over the slats. A layer of small, clean pebbles are then placed on the gauze to a depth of about two inches. These will prevent the pulp from clogging the gauze and may be readily removed and replenished. Either screw or weight pressure may be used to extract the juice, which will be drawn off through a

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Tasmania—(continued).

small pipe fitted in the bottom of the cask.

Clarification.

Although the juices may be retained in a fairly clear condition by filtering, in order to obtain the bright transparent product which is in commercial demand it will be advisable to clarify the juice. This may be done by using a clarifying agent such as the white of an egg, casein, or a special substance made for this purpose and known as "Spanish clay." Spanish clay gives the best results with berry fruit juices and is simple in application. The clay, which is similar to that used in the manufacture of pottery, is mixed in water at the rate of one pound to the gallon. It is allowed to soak for a few days and then stirred and mixed until a thin paste is formed. One pint of the paste is mixed with every 10 pints of fruit juice and heated to 150 deg. Fahr., being thoroughly stirred during the process. This is then allowed to stand for 24 hours.

The acids of the different fruit juices have the effect of coagulating the clay particles. This causes them to settle to the bottom of the vessel, at the same time collecting any small suspended matter. The result is a bright, clear fruit juice which may be poured off and bottled. The most efficient and serviceable bottles for putting up the juice in a commercial form are the type that can be stoppered by the use of patent capsules. The bottles should be filled to about two inches from the top of the necks. If corks are used they should first be sterilised in boiling water.

Pasteurising.

In order to ensure good keeping qualities the product should be pasteurised. This may be carried out by laying the bottles of juice in a horizontal position in an ordinary copper or iron boiler which has been fitted with a wooden false bottom raised about an inch from the metal. The bottles of juice are covered entirely with water which is heated slowly to a temperature of 175 deg. Fahr. and kept at that temperature for about

20 minutes. When the bottles of juice are dry the corks should be sealed by dipping the necks into melted paraffin wax. This, of course, is unnecessary with patent capsules. The juice is then ready for labelling and marketing. — Tasmanian Journal of Agric.

FRUITGROWING IN TASMANIA.

CULTURAL INFORMATION regarding Tasmanian orchards is to hand from Mr. P. H. Thomas, Chief Horticulturist, Department of Agriculture, as follows:—

A series of experiments was made by the Department during the early part of November on the control of "Canary fly," and it has been found that Black Leaf 40 at a strength of 1 pint to 80 gallons (either alone or in combination with other sprays) will give 100 per cent. kill if care is taken to spray thoroughly and drive the wash up under the leaves. This control is not effective when the insects have reached the winged stage.

Arsenate of lead sprays from codlin moth are being applied. Orchardists in late districts frequently claim that it is unnecessary to apply arsenate sprays until Christmas, as the moth has not emerged. The justification or otherwise for this statement can be verified by traps consisting of cream jars or such, baited with fermenting Apple juice or cider (2-3 inches in bottom) and placed in the trees. If the moth are flying they will be attracted and numbers found drowned in the liquid.

The larvae of the Cherry fly (Cherry slugs) on hawthorn and stone fruits, are very easily killed by weak arsenate sprays.

Following the humid weather in November, black spot showed up on Apples and Pears, and weak Bordeaux 1-1-40 was used.

For Apples, good results were obtained last year with colloidal sulphur (2 lbs. to 100 gall.) in combination with lime sulphur ($\frac{1}{2}$ gal.-100 g.), and a spreader. Where arsenate is included in the mixture, two pounds of hydrated lime should be added. This spray also controls mildew and certain other pests to a lesser extent.

New Zealand

Substantial Apple Crop Developing, but Black Spot has Made its Appearance :: Resignation of Dr. G. H. Cunningham from the Government Service :: Enquiry into Export Marketing.

(By a Special Correspondent)

WELLINGTON, 23/12/35.

WHILE EARLY ANTICIPATIONS for Apples in New Zealand pointed to a bumper crop for 1936, unseasonal weather conditions have modified the original estimates and the general opinion is now that it will be a good crop, but the export figures will not reach the record of 1934.

The growing season has been notable for a tremendous amount of rain, and the result is a good sprinkling of black spot, and where growers were able to keep a continuous spray coverage on the fruit and foliage, russet has made its appearance. Of course, sprays are generally blamed, but it is noticeable that irrespective of the spraying material used or the time of application russet is more or less prevalent. In some cases isolated trees which did not see any spray are showing russet, but of course, not to the same extent as the commercial areas.

With the

severe grading regulations this will have quite an influence on the quantity available for export, particularly on clean skin varieties such as Dunn's, Grannie Smith, etc. With the red varieties the color sometimes has the effect of covering the russet or at least taking away a certain amount of its objectionable appear-

equipped with this system which numbers among its advantages over the portable system, economy and efficiency.

Scientific Research.

Dr. G. H. Cunningham has severed his connection with the New Zealand Government, much to the regret of all those connected with the fruitgrowing industry. There are other branches of primary production which also value the services rendered by Dr. Cunningham, and we understand an attempt is being made by the new Labor Government of New Zealand to secure the return of Dr. Cunningham to the Government service. Of course, he should never have been allowed to leave, but these things do happen and we can only hope that some solution will be found.

Export Marketing.

The interest of the two main export districts of New Zealand is to-day centring round an enquiry being conducted by the Agricultural Commission following the request per medium of a petition of a large percentage of the growers in both Hawke's Bay and Nelson areas.

For the benefit of Australian readers who may be out of touch with N.Z. marketing arrangements we would mention that in 1933 the N.Z. Fruit Board made a sole agency marketing arrangement with the firm of Messrs. J. and H. Goodwin, of Manchester. This sole agency covered the whole of the United Kingdom on

all fruit shipped by the Board. In 1934 an alteration was made by the inclusion of the panel of Covent Garden Brokers who operated on behalf of the Board prior to 1933, but Messrs. J. and H. Goodwin retained the sole agency distribution for the markets outside London. In this year growers received individual account sales. In 1935 the same marketing arrangements existed as in 1934, except that the right of nomination of broker was withdrawn and pooling was once more introduced.

The atmosphere during the first day of the Conference was tense, both sides anxious to prove that the other was wrong, but under the very capable chairmanship of Sir Francis Fraser, the succeeding days brought gleams of humor and gradually a better spirit pervaded, and the atmosphere which in the first day had been like that of a Supreme Court changed into something more approaching a business men's conference.

In our next letter we hope to be able to give the ruling of the Commission. New Zealand Fruit Board policy will always be of interest to Australian competitors. For some years New Zealand has been renowned for making experiments, whether these experiments have resulted in an increased return to the New Zealand exporter is a moot point. They have certainly given experience, but it is wiser and usually less costly to learn from other people's experience and not your own.

Re-working Apple Trees in W.A.

SUCCESS WITH LARGE TREES

(By Eric T. Price, Kalamunda, W.A.)

A block of eighteen huge 30-year-old Five Crown Apple trees presented a problem. They produced large crops on alternate years, but (being unsuited to the warm district in which they were growing), a large percentage of the fruit was soft and spongy and quite unmarketable. Notwithstanding this waste, the average yield of sound fruit was seven bushels per tree. How to replace these not unprofitable trees with another and more suitable variety, with a minimum loss of yield, was a problem. The difficulty in re-working such large trees may be understood when the girth of one measured 3 ft. 6 in. That the re-working was an entire success is shown by the yield of 8½ bushels per tree the fourth season after grafting and 10 bushels the fifth season after grafting.

The overplus of sap from such a well-established root system was taken care of by the unusual practice of allowing each leader to grow freely, none of the first year's growth be-

ing cut back. In this way no appreciable shock was inflicted on the roots, and the throwing out of useless water-shoots from the butt, and excess sappy growth from the spurs, was avoided. The procedure of cutting back leaders encourages the growth of fruit spurs and also strengthens the limbs.

In this case the nicking of the leaders immediately above the buds where fruit spurs were required produced all the needed spurs. Support for the leaders was required, and this was supplied by long stakes, driven into the ground at an angle. The stakes, which were needed for five and six years, also served to train the leaders, with the result that fine cup-shaped trees have been obtained. The limbs were in no case spindley, the support being needed largely because of the weight of fruit, as much as 1½ bushels growing on one limb. The leaders, being allowed free course, grew as much as 10 feet in one year, making big trees in quick time. Eight years after re-working the average yield per tree was 18 bushels.

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SOME DISORDERS EXPERIENCED IN THE STORAGE OF APPLES

JONATHAN SPOT :: DEEP SCALD :: SLEEPINESS AND WATER CORE.

Importance of Correct Picking Time and Carefulness in Handling.

DURING RECENT YEARS investigations have been conducted in Tasmania by the Division of Plant Industry of the Council for Scientific and Industrial Research into a number of Apple disorders which sometimes occur amongst certain Tasmanian Apple varieties.

The information that has been obtained by Messrs. W. M. Carne and D. Martin regarding the causes contributing towards these is interesting. The disorders described have been rather prevalent this season, and the recommendations for avoidance or control will be particularly helpful to growers in the picking, selection and storage of Apples.

Jonathan Spot.

"Jonathan Spot" is a skin disorder of certain red varieties, notably Jonathan and King David. It appears as brown to almost black spots or streaks, the color varying according as the non-flushed or red areas are affected. It may occur anywhere on the skin. The longer the fruits are left on the tree, and the greater their development of red, the greater is their likelihood to develop "spot" when picked. In other words, extra fancy fruit is more liable than fancy. Liability varies in different seasons, probably owing to seasonal variations in color intensity and time of maturity. Liability was higher in 1935 than in 1934 because color development was more intense and the season earlier. The early season led to Jonathans,

susceptible than those from light-crop trees. Consequently, the relation between fruit size and liability in a commercial line would depend largely upon whether the fruit came from trees in which heavy or light crops predominated or were evenly distributed. It is of interest to note that the association of heavy crops with high susceptibility to Jonathan spot is apparently the one exception to the rule that such crops are less affected by non-parasitic diseases than are light crops.

Reports from overseas and personal experience indicate that true Jonathan Spot is rarely important in Tasmanian Apples exported overseas. Such fruit is usually in a cool store or being cooled in a ship's hold within a week of picking. This factor is against the serious occurrence of "spot." Some "spot" usually occurs in susceptible varieties held for or shipped to mainland markets. Such fruit may have been held for weeks in unrefrigerated storage, or up to several weeks before going into cool storage.

Tasmanian experiments confirm the results of those made in North America, and show that the only way to ensure the control of "spot" in Jonathans picked when properly mature is to have them cooled to 40 degs. Fahr. or less within a few days of picking.

On March 26, 1935, eight trees were picked and the fruit divided into three lots. One lot was placed in cool



Fig. I—Severe Jonathan Spot. (After Plagge, Maney and Pickett—Iowa.)

etc., being picked, on the average, in more mature condition than in the previous year.

There is confusion in the literature on Jonathan spot as to whether there is any relation between liability and size of fruit. What appears to be the explanation of the different results obtained by different investigators came to light in an experiment with Huon Jonathans in 1935. It was found that for any individual tree the larger fruits were more susceptible than smaller ones picked at the same time. As between trees, however, the fruits from heavy crops proved more

store the same day, one a week, and one two weeks later. All were held in cool store ten weeks, and then for three weeks at ordinary temperatures.

At the end of that period "spot" was negligible in the fruit stored immediately. In that delayed a week, 2½-inch Apples developed upwards of 11 per cent., though most of it was slight. In the third series, "spot," mostly severe, averaged nearly 50 per cent., the maximum number of 2½-inch Apples affected from any one tree being 78 per cent.

It should be noted that after removal from cool store "spotting" continued to become

1933 was a bad year for low temperature injury in Jonathan; 1934 gave little trouble. More occurred in 1935, because the fruit averaged larger and ripened earlier than in 1934, with the consequence that a smaller proportion of commercial pickings were immature.

Although the most desirable storage temperature for Tasmanian Jonathans may vary somewhat from year to year, year in and year out



Fig. II—Deep Scald in Jonathan.

more severe for a week or two.

To sum up, Jonathan spot can be controlled if Jonathan, King David, and other susceptible varieties are cooled to 40 degrees Fahr., or lower, not more than two or three days after picking. It can also be avoided by picking fruit in an immature and poorly colored condition. Of course, such a practice cannot be recommended.

Deep Scald of Jonathan.

"Deep Scald" is readily recognised by sharply-defined and depressed brown spots or bands on the cheeks of Apples, but never at the stem or calyx ends. It is frequently but incorrectly called "Scald." "Apple Scald" proper is a browning of the skin of certain green or yellow varieties quite unlike and not related to deep scald. The

best temperature is undoubtedly in the neighbourhood of 37 degs., or, in practice, 36-38 degs. Using even higher temperatures (38-40 degs.) we have usually found the storage life better than at 32-34 degrees. This was especially marked in 1933.

It is true that low temperature injury may be avoided by picking the fruit in immature condition, but at the expense of quality.

Storage of Jonathans at 36-38 degs., if in prime condition, should keep them in good order until September or later in most seasons. By prime condition is meant that the ground color has started to turn yellow-green, that the fruit has come from good to heavy crops on individual trees, and that it is free from water-core. Trees with



Fig. III—Radial Water-Core in Jonathan. (After Palmer—Brit. Columbia.)
(Illustrations by courtesy Tasmanian Journal of Agric.)

naming of the two diseases is very unfortunate, but is of too long standing to be readily changed.

Deep scald is a particular form of low temperature breakdown developed in some varieties, and particularly in Jonathan, when picked in prime maturity for storage. By prime maturity is meant that stage in the life of the Apple at which when picked it will ripen in storage with maximum quality and flavor. If picked in more immature condition deep scald will not develop. In more mature fruit it will tend to be replaced by normal low temperature breakdown.

Deep scald does not develop in non-refrigerated stores, and very rarely in cool stores when the temperature is over 36 degs. Fahr. It occurs at lower temperatures most frequently in Jonathans picked when the ground color has started to turn yellow, and consequently occurs in light crop fruit at an earlier date than in heavier crop fruit grown under the same conditions. The liability of light-crop fruit is greater than that of heavy-crop fruit at the same stage of maturity. Large fruit is more liable than small fruit from the same tree.

1933 was a bad year for low temperature injury in Jonathan; 1934 gave little trouble. More occurred in 1935, because the fruit averaged larger and ripened earlier than in 1934, with the consequence that a smaller proportion of commercial pickings were immature.

Although the most desirable storage temperature for Tasmanian Jonathans may vary somewhat from year to year, year in and year out

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injury. At the same time it will encourage the development of Jonathan spot. Delay between picking and cool storage has the same effect as delayed picking followed by immediate cool storage. Both increase liability to low temperature injury. As a general practice the best results may be expected from storage at 36-38 degrees within three or four days of picking. Sleepiness of Tasmanian Jonathans in Mainland Markets.

Although a varying amount of "sleepiness" or "breakdown" may occur in some years in a number of the varieties exported to mainland markets, complaints of its occurrence in Jonathans recur with unfortunate regularity each season. They usually commence about May and reach a peak in June and July.

Experimental evidence combined with that provided by fruit stopped by the inspection staff, indicates that in the majority of instances the cause is the same, namely, the presence in the fruit of water-core. The particular form of water-core is that known as radial. It may be recognised in transversely halved fruit as translucent streaks radiating from the core like the spokes of a wheel. They may

be all around or only on one side of the fruit. If the fruit is cut longitudinally most of the water-logged tissue will be found around the calyx end of the core. There are no external symptoms, and consequently no way of recognising affected fruit. However, as liability increases with the maturity of the fruit and with its size, and because it is greater and appears earlier in lighter than in heavier crops, large, well-colored fruits are likely to be the first affected.

What happens as a result of the presence of water-core depends on its severity and the temperatures to which the fruit is exposed. Relatively high temperatures are followed by rapid breakdown. Lower temperatures delay its onset, but do not, at least, to any important extent, reduce its occurrence when the fruit is exposed to higher temperatures. As, even in ordinary storage, winter temperatures are low in Tasmania, most of the breakdown occurs when the fruit experiences the higher temperatures of non-refrigerated ships' holds and of the mainland markets. It may develop in cool-stored fruit held until August or later.



Fig. IV—Water-Core Breakdown in Jonathan. (The dark-colored spots radiating from the core-line indicate water-core.) (In part after Plagge and others—Iowa.)

(Illus. by courtesy of Tas. Journal of Agric.)

During storage much of the water-core may disappear, but it does not follow that the fruit at the same time returns to normal. The flesh becomes soft and mealy, and prematurely overripe, or it may turn brown, when it is said to have "breakdown." In both conditions it becomes very subject to fungal rots. Neither the over-ripeness nor the breakdown condition are normal in type, but are the result of premature senility and death. Usually about half the fruits affected with water-core develop breakdown if held for any length of time.

Jonathan, in some seasons particularly, is subject to low temperature breakdown. When this is severe it

may cause more loss and may mask the effect of water-core breakdown. Bruising tends to stimulate and hasten the onset of breakdown, so that bruised fruit may become affected, which otherwise would have kept in good condition much longer.

Summary.

To avoid premature over-ripeness and breakdown in Jonathans held in Tasmania for local and outside markets, close attention should be given to the picking. As the fruits begin to approach extra fancy grade on the trees, samples of the largest and more colored should be cut in half for the detection of the first signs of water-core. Special attention should be given to the fruit of trees with the lighter crops.

At the first sign of radial water-core, arrangements should be made for the completion of picking, commencing with the lighter-cropped trees. As a general guide, not more than 5 per cent. of fruit with water-core should be looked upon as the maximum safe amount except for immediate local sale.—Tasmanian Journal of Agriculture.

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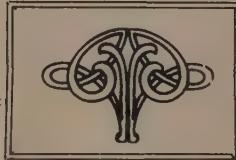
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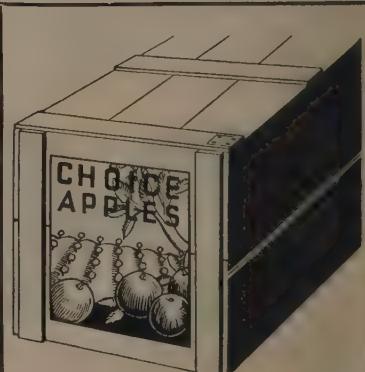
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Orchardists and Fruit Cool Stores' Association

Export and Local Marketing — Menace of Neglected Orchards — Crop Forecasts

THE 72nd quarterly meeting of the Orchardists' and Fruit Cool Stores' Association of Victoria, held on December 17, 1935, at the C.T.A. Buildings, Flinders-street, Melbourne, there were present — Messrs. J. J. Tully (president), J. B. Mills (president Aust. Apple and Pear Export Council), J. M. Ward (Supt. of Horticulture), L. G. Cole (vice-president), R. Langley and H. Chandler (Croydon), R. Lawford (Blackburn), Mr. G. F. Fankhauser (East Burwood), J. Tully, Senr. and J. Williamson (Doncaster West), G. H. Sprague (Hastings), J. H. Lang (Harcourt), F. Petty ("Tacoma" and Orchardists), J. G. Aird and W. MacKinlay (Ringwood), F. J. Byrne and A. D. Finger (Wantirna), H. J. Willoughby (Tyabb), T. H. White (Somerville) and H. J. Noonan (secretary).

Apologetics were received from Messrs. F. Moore, J. W. Barrett, H. Pump, H. M. McLean, A. Chandler, F. Unthank, W. Hutchinson and A. E. Hocking.

The president welcomed Messrs. J. Williamson, Doncaster West, and A. D. Finger, Wantirna, as new delegates.

Vegetation Diseases Act.

Letter received from the Minister of Agriculture acknowledging the request of the association for the more stringent enforcement of this Act in respect to neglected orchards. A good deal of discussion took place regarding the number of apparently neglected orchards that were in evidence in different districts. Eventually it was resolved: "That the executive make further representations to have the Act amended so as to give departmental inspectors power to enforce the chopping out of neglected fruit trees."

Fidelity Bond for Export Agents.

A letter from the Director of Agriculture intimated that it would not be possible to introduce this year legislation to increase the amount of the fidelity bond for export agents, as had been requested by the association, but consideration would be given to the request next year. As regards paying money from consignments into a trust account, it was pointed out that, under the Farm Produce Agents' Act, agents were required to account for consignment money separately from their own money. The letter was received, and the matter deferred until it comes before Parliament next year.

Apple and Pear Export.

The president introduced Mr. J. B. Mills, president of the Australian Apple and Pear Export Council.

Mr. Mills, in his address, referred to the birth of the council through the V.F.M.A., and went on to mention developments from the Ottawa conference, which had resulted in the holding of the Empire Producers' Conference, attended by Mr. G. W. Brown. The Ottawa duty on foreign

Apples (4/6 per case) expired in 1937, and owing to exchange rates it was necessary for Australian fruit to be protected by a still higher duty, or else a close period, when foreign fruits would be excluded. He advocated close co-operation between all Empire fruit-producing interests through an Empire Fruit Federation, and gave as an instance of the beneficial effects of co-operation the agreements which existed between Australia and New Zealand. New Zealand had stored 200,000 cases at a critical period last season, to the ultimate benefit of the Dominion, also Australia. This co-operation was a big step in the right direction, and, with a carefully arranged programme of shipments, could achieve a great deal. He thought that the appointment of a limited number of distributors in London would facilitate co-operation, and might eventually reduce marketing costs to some extent. This did not mean that the number of selling agents would be in any way limited. The improvement that had been made in the Australian pack, and the limitation of export quantities had resulted in a growing confidence in Australian fruit amongst overseas buyers. The Apple and Pear Council in its first year of operation had saved growers £200,000 on freight exchange, and had since secured the 2d. case rebate on Apple freight. It was hoped the same rebate could be obtained on Pear freight.

A vote of thanks to Mr. Mills for his appreciated address was accorded at the instance of Col. J. H. Lang.

Marketing Fruit in Australia.

A report of a meeting dealing with this matter, and attended by the secretary, was read. A committee had been appointed at the Hobart conference of the Apple and Pear Council to consider ways and means of improving marketing conditions in Australia, as it was felt that some action was necessary owing to the re-

striction of exports and the gradually increasing production. Certain recommendations had been made by this committee, the principal ones being the inauguration of a publicity campaign and the raising of standards for fruit sold on Australian markets. Discussion took place, and it was suggested that if a publicity campaign were decided upon the best way of raising the necessary funds would be by a stamp duty on every case sold. As Mr. Tully and Mr. Moore had been appointed to a committee to deal further with this matter, it was resolved:

"That this question be left in the hands of the executive."

Fruit and Vegetables Packing Regulations, 1935.

The new regulations under this heading were read, and various delegates commented adversely on the imposition of further regulations. It was resolved:

"That this association protests strongly against the compulsory marking of counts on Apples and Pears, and counts or net weight on Peaches, also against the compulsory obliteration of old marks and brands on cases, particularly in the open case market."

Crop Forecasts.

Delegates from different districts reported as follows:

East Burwood. — Apples variable, lighter than last year.

Hastings. — Apples good.

Tyabb. — Apples good. Plums failure. Pears good on average.

Harcourt. — Apples good on average. Plums heavy. Pears average.

Ringwood. — Apples fairly good. Plums light. Pears average.

Wantirna. — Apples variable, lighter than last year.

Doncaster. — Apples average. Peaches light. Pears average.

Practically all districts reported hail damage in Apples, with a consequential lessening of export quantities.

Charcoal Supplies for Stores.

Mr. H. J. Willoughby, Tyabb, requested that the executive enquire into the matter of charcoal supplies for stores running on suction gas, as there was sometimes difficulty in securing continuity of supply.

Annual Conference.

The president requested that any member having suggestions to make regarding the venue of the next conference, notify the executive, and in closing the meeting extended to members and delegates the compliments of the season.

SUBSIDY ON FERTILISERS.

Increased Appropriation.

A Bill to provide for an appropriation of £325,000, instead of £250,000, for the payment of the subsidy of 15/- a ton on fertilisers used in primary production other than wheatgrowing in 1934-35, was passed by the House of Representatives early in December.

The Minister for Commerce (Dr. Page) explained that it had been estimated that £250,000 would be required for the payment of the subsidy, but on October 31 the closing date for applications, it had been found that the total amount required would be £325,000.

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GRUBBING?

Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features, with a host of others, was THE "MONKEY" GRUBBER.

It gave me the power of 260 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke.

There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

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CITRUS NEWS & NOTES

Manuring of Citrus Trees

What and When to Apply

(By R. J. Benton, Instructor, N.S.W. Dept. of Agriculture.)

In a circular dealing with the application of fertilisers to citrus trees, issued by the N.S.W. Department of Agriculture, Mr. Benton, who is Special Instructor on Fruit, gives some valuable advice to orchardists.

It has been noticeable that citrus trees receiving large supplies of farmyard manure, or similar material supplemented with various fertilisers containing more or less nitrogen, phosphoric acid, and potash, have been more consistent in cropping than similar trees not treated so favorably. At first sight, this increased yield might be regarded as due to the organic matter supplied, but, while organic matter is certainly of very great assistance and is necessary, other growers who have not been able to do more than rely on occasional green manure crops with applications of nitrogenous fertilisers are also obtaining excellent results. The deduction to be made from such experiences appears to be that nitrogen is the main fertiliser required, and is responsible for the increased productivity of the trees. Phosphoric acid and potash may be necessary, but the value of these is certainly not very apparent, and very small applications are sufficient.

Organic Matter is Essential.

Organic matter is essential, for in its absence little benefit can be derived from commercial fertilisers. It may be that in the conversion of or-

ganic matter into humus, chemical changes free sufficient phosphoric acid and potash for the requirements of citrus fruits. In practically all soils, therefore, provision should be made for increasing the organic content. In most cases this is most economically accomplished by growing a green crop each year. Leguminous crops (field Peas, Vetches, Tick Beans, Lupins, etc.) are preferable to crops of the cereal type, as the former add an appreciable amount of nitrogen to the soil. These crops should be sown in early autumn in well-prepared soil, and with an application of up to two cwt. of superphosphate per acre.

In the absence of a green leguminous crop, weed growth should be encouraged in autumn and winter, and in deep soils where lack of moisture is not a problem it may be encouraged at other seasons of the year. Where green crops of any kind are difficult to produce, the incorporation of any old maize stalks, husks, hay, or similar trash is desirable.

Nitrogen Governs Production.

The condition of the trees will most probably suggest the need for further actual plant food in the form of nitrogen, in addition to the organic matter. The amount of nitrogen available is undoubtedly the dominant factor in regard to the actual production of citrus fruit. Trees needing nitrogen lack the deep green color of thrifty, productive trees, and are unable to make the growth necessary to the bearing of good crops. The foliage will be more or less yellowish and less dense.

Trees of large size (12 feet or more in height or width and normally 12 to 14 years old) may need up to 2 lb. of nitrogen per tree, whilst trees 7 or 8 feet high (medium size and 7 to 8 years old) may require half that amount, with smaller trees proportionately less. To provide 1 lb. of nitrogen per tree would require the application of 5 lb. of sulphate of ammonia or 6-2/3 lb. of nitrate of soda to each tree. Blood and bone and bonedust are fertilisers containing some nitrogen, but are largely sup-

plied with phosphoric acid. The necessity of not omitting organic material—bush scrapings, new soil, farmyard manure, or green manure, preferably of a nitrogenous nature—in order to reduce the necessity for so much nitrogen in an inorganic form may again be stressed.

Growers' apprehensions that inorganic nitrogenous fertilisers are only a stimulant—that the land is impoverished and fruit quality is sacrificed—are not borne out by practice. Citrus trees will only return a yield in proportion to the amount of plant food available. On many orchards it would be more economical to apply all the manure possible to half the number of trees, on the principle that half the trees well fed will produce much more and better quality fruit than the whole lot partially starved.

When to Apply the Fertilisers.

Applications should be made just prior to hoeing and cultivation of the trees, and on a circular area, of which the tree's height would form the radius. The roots of 10-year-old trees feed over the whole orchard area as a rule; an application to trees of this age should, therefore, be distributed over the whole area.

As to the time of the year when the fertilisers should be applied, much will depend on the district, soil, and local conditions. Generally speaking, the trees remain in a dormant condition during the winter, but, as spring advances, a growth is made on which blossom buds develop. Making allowance for situation and climatic conditions, the autumn is usually the time when most growth occurs. The reason for this would appear to be very closely related to the supply of plant food available during the season.

Changes in the nitrate content of the soil are continually occurring, and whilst such changes are influenced somewhat by cultural treatments and seasonal conditions, generally speaking the nitrates (which are the only form of nitrogen of use to trees) are lowest in the winter and early spring. As summer advances, the supply of nitrates increases, until a maximum is reached in autumn.

It seems obvious, therefore, that if nitrates are not present naturally when the tree is making a heavy demand for them, a large proportion of blossoms must be starved off. The best preventive of this will obviously be an artificial supply of nitrates. The nitrogen fertiliser most prompt in this respect is nitrate of soda, which should be applied immediately prior to bud-bursting. Sulphate of ammonia and dried blood, each having to be converted into nitrates, should

be applied at least a month prior to bud-bursting. Green leguminous crops, which supply a proportion of nitrogen, should be turned under at least six weeks prior to the bud-burst. The application of sulphate of ammonia as one ingredient will hasten the decay of the green crop at this stage.

The Number of Applications.

Whether the fertilisers should be put on in one or more applications is dependent on several factors. In some places the rainfall is low and the soil retentive. In such cases one application will probably give as good results as two applications. But in other districts where leaching may be experienced, or where heavy falls of rain are apt to occur, the application will be of greater benefit if distributed in two or three amounts, the first being the heaviest. The second or third application should be made by December, especially in districts subject to frosts. It is necessary that the growth of trees be well hardened before winter.

When Potash is Lacking.

Where fertilisers containing appreciable percentages of phosphoric acid and potash have been applied in previous seasons, it can confidently be anticipated that excellent results will accrue from applications of nitrogenous fertilisers alone, for a few years at least. If potash is lacking in the soil or has not been applied, a good mixture is as follows:—Sulphate of ammonia, 6 cwt.; sulphate of potash, 1½ cwt. Mix well together and apply ½ lb. of the mixture per tree for each year that the tree is old up to 15 lb. Thus an 8-year-old tree would receive 6 lb., which amount would, of course, be applied in one or more applications as conditions suggested.

Mix the Fertilisers in the Orchard.

Many growers purchase ready-mixed fertilisers for their citrus crops, but, whatever its advantages, the practice is not an economical one. When a ready-mixed fertiliser is applied it may prove of benefit to the trees or crop. In all probability, however, the benefit is provided by only one of the ingredients of the fertiliser. It is therefore strongly recommended that growers should mix their own fertilisers, and reserve an evenly grown lot of trees for a fertilising experiment on their own account.

Enquiries are occasionally received as to the effect of fertiliser in increasing the size of fruit. Undoubtedly, good commercial size is dependent mainly on a sufficiency of soil moisture, but there are indications also that the absence of potash for several years from the fertilisers applied reduces the size of the fruit.

In coastal districts it is probable that a light application of 10 cwt. lime once in three years, a month before sowing green crops, would be beneficial to such crops, and, indirectly, to the citrus trees.

The Victorian citrus crop is developing well, and a yield equal to, if not greater, than in 1935 is anticipated.

CITRUS IN PALESTINE.

Rapidly Increasing Production.

Direct shipments of citrus fruit from Palestine to the United Kingdom were as follow:—

1932-33—2,843,000 boxes.

1933-34—3,015,000 boxes.

1934-35—4,609,000 boxes.

Increased areas have yet to come into bearing.

Jack: Let us play Adam and Eve.

Jill: How?

Jack: You tempt me to eat your Apple and I'll fall for it.

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Dried Fruits Department

Drying Apricots and Peaches

(By W. McCutcheon, H.D.A., Fruit Inspector, Cullawaa, N.S.W.)

The following is part of an article upon the above subject, which recently appeared in the N.S.W. Agricultural Gazette.)

IN THE PRODUCTION of a quality sample of dried Apricots, a factor of considerable importance is maturity. If the Apricot is not properly mature, the resultant dried product will be a smallish, green-tinted fruit, which under the present grading regulations cannot be placed among the "crown" grades, and, moreover, as the drying ratio is very wide, such fruit will be handled at a loss. Again, if the fruit is over-ripe, either it will become a "slab," and thereby be depreciated in value, or the fruit, by reason of being soft, will slow up the pitters in their work and so become costly to handle.

Pick Frequently.

Frequent pickings are necessary during the season, particularly during a spell of hot weather. Some of the Apricot varieties used for drying purposes have a tendency to ripen unevenly in the same fruit, and so call for especial judgment when picking. This is very noticeable in Moorpark, which have a tendency to ripen very much more on one side than on the other, and it has been found that if the fruit is picked when the riper parts of the fruit have fully matured and the area of the fruits which have not softened is of a greenish-yellow color, and not more than one-eighth of the surface of the fruit, that the general condition is improved by leaving such fruit in the picking tins overnight. On no account, however, should "early" picking be practised with the idea of allowing the fruit to ripen off in the tins, as this will result in a distinct loss of color and sugar content.

Pitting.

Although pitting is the largest item of cost in the drying of Apricots it must not be slumped in any way, and the practice of some very speedy pitters of "slipping the stone" is one which is very expensive to the owner of the fruit. Such pitters usually handle the fruit quickly and at less cost per ton of dried fruit, but the grading regulations now stipulate that mis-shapen and ragged fruit shall be rejected from the "crown" grades, and this loss becomes severe, as it is only with the best of the fruit that "slipping the stone" is practised. The fruit should always be cut right around, opened out, and the stone then removed; on no account should it be forced out through the fruit.

Place Fruit on Drying Trays.

The pitted fruit is placed, cut surface uppermost, on wooden drying trays, and taken to the sulphur house, or, as it is sometimes wrongly called, the fumigator, to be advanced another stage.

The drying trays vary slightly in size; but in practice one or two sizes have been found particularly convenient. When using an evaporator, the size of the tray, of course, is determined by the size and design of the drying chamber, but for sun drying the 3-ft. by 2 ft. tray that was so widely used has been somewhat superseded by trays of larger size. Two useful sizes are the 4 ft. by 3 ft. and the 6 ft. by 3 ft. trays.

Sulphuring.

There are a number of designs of sulphur-houses which are satisfactory, ranging from a movable box holding twelve to fifteen trays of fruit, to sulphur-houses in series along a tramline, each holding fairly large quantities of fruit. It is not proposed, however, to deal with this phase of the grower's plant, but only with the actual processing.

When once in the sulphur chamber it is closed, and the sulphur ignited. It is most satisfactory to have the sulphur spread over a fairly large surface, and, as burning sulphur is a rather powerful corrosive, it is desirable that the container should be, say, 1/16 inch in thickness; an old frying-pan or some similar metal container answers the purpose well.

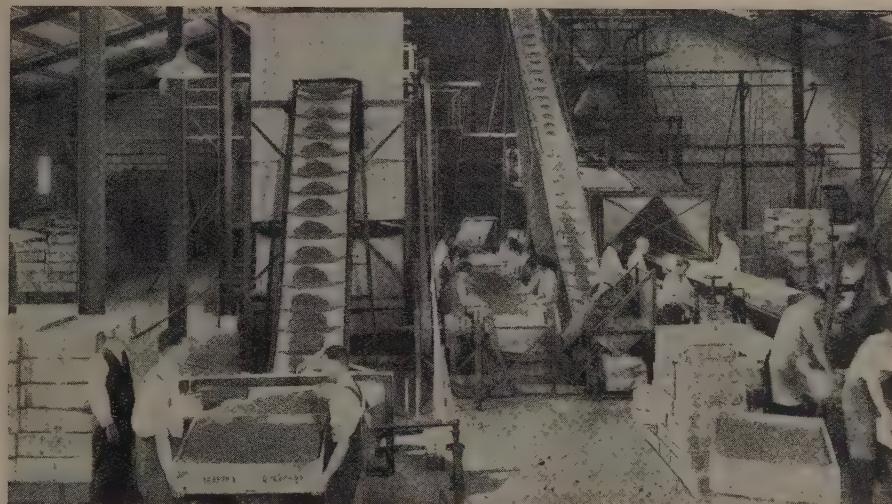
Some kindling, such as dry grass, a piece of paper, or a piece of hessian, placed under the sulphur as tinder is advisable to encourage the burning of the sulphur, which is liable to "go out" unless such precautions are taken. When the tinder is lighted a little of the sulphur should be sprinkled over the burning section and the pan not placed in position until the edge of the main body of sulphur has begun to melt and assume an appearance somewhat similar to treacle.

As the burning sulphur requires air to enable it to keep burning, it is es-

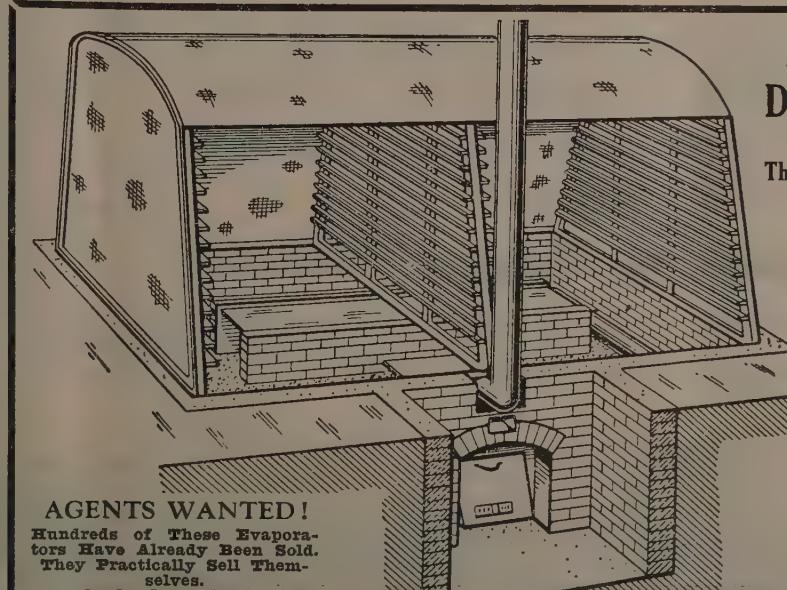
sential that a vent should be provided as near to the sulphur pot as possible, and at or near ground level. Generally speaking, it is most satisfactory to have the sulphur pot in a pit outside the sulphur chamber, in which case the pit should be covered with a sheet of iron, under which a V-shaped trench about 2 inches in depth and width is cut in order to provide sufficient draught to enable the sulphur fumes to reach the fruit. To ensure the free movement of the fumes from the pit into and through the chamber it is necessary to provide the chamber with vents. For this purpose auger holes of $\frac{1}{2}$ to 1 inch in diameter at the top of the house, and at the end farthest from the burning sulphur, are satisfactory, though it is preferable that vents be provided at both ends, those on the windward side being closed (corked) during operations.

Sulphur Dioxide Content.

Since the sulphur dioxide (SO_2) content of dried Apricot comes within the Health and Pure Food Acts of the various States and countries to which our dried Apricots are sold, it is important that only sufficient should be used to fix properly the color of the dried product. The legal tolerance is 14 grains of sulphur dioxide per pound of dried fruit, and in order to ensure that the fruit will



Cleaning and packing Vine fruits at a River Murray packing house.



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By this process fruit can be dried in 2-3 days with absolute certainty of satisfactory results. The product is remarkably even in color, and comes out with unimpaired bloom, carrying a really appetising appeal to the buyer.

Compare this with the costly and tedious rack-drying process—and, remember, drying can start with picking. Weather cannot affect the efficiency of the evaporator. Rain or shine.

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keep without deterioration of the color in the moist packs at present being put up by the packers, it is necessary to keep as close as possible to the limit prescribed.

It has been amply shown by experimenters and chemists that dried fruits in storage give off a proportion of their SO₂ content, and as the moisture content of the sample rises, the rate at which the dissipation of the SO₂ takes place is increased, so that for the moist packs to remain in good condition over fairly long periods of storage it will be realised that fruit may easily be under sulphured.

Whilst the maturity of the fruit and other factors enter into the question, the temperature of the day is the main factor in determining the rate at which the fruit will absorb sulphur, and presuming that the fruit and other factors are reasonably near normal the following table of exposures should be satisfactory.

Shade Temperature.	Period of Exposure.
Over 100 deg.	3½ to 4 hours.
90-99 "	4 to 5 "
80-89 "	5 to 6 "
70-79 "	6 to 8 "
Under 70 "	8

To be effective the sulphur should actually burn during the whole or almost the whole period.

There are a number of guides as to when fruit is ready to be removed from the sulphur chamber, but the most reliable test is to take the fruit between the thumb and forefinger, and if the skin of the fruit readily slips from the pulp, and the fruit has an even cooked appearance, then it may safely be removed.

Shade or Sun Drying.

Although a diversity of opinion exists as to the relative merits of shade drying and sun drying, it has been observed that the best samples are generally produced by about two-thirds drying in the sun and finishing the drying in the stack.

Often the fruit becomes quite chippy due to overdrying, and cases have been noticed where growers, realising that weight is being lost, have used the watering can or similar means to moisten the fruit when placing it in the sweat box. The results are generally disastrous; on occasions as much as 80 per cent. has had to be rejected owing to discoloration due to too much water or its uneven distribution. The difference between

"dry" and "overdry" fruit is generally only about 2 to 3 per cent. of the total weight, and not 20 to 30 per cent. as is commonly believed.

It is essential that fruit on the drying trays should at all stages be protected from rain and dust; rain will cause the fruit to go black in color whilst dust, which is expensive to remove, makes the fruit dirty and unpalatable.

Drying of Peaches.

The foregoing remarks on the drying of Apricots apply also to the drying of Peaches, except in the matter of the period of exposure to the sulphur fumes, Peaches requiring from 50 to 75 per cent. longer exposure to the sulphur fumes. Furthermore, in the case of Peaches, an exposure of one to two days in the sun is sufficient before stacking the trays and finishing drying in the stack.

To Dry Peeled Peaches.

The drying of peeled Peaches on the orchard site is as yet rather in the experimental stage and seems to offer possibilities where the fruit is of good quality.

The procedure adopted is similar up to the point when the fruit leaves

NEGLECTED ORCHARDS.

The menace of neglected orchards has been brought prominently before the Victorian Department of Agriculture by the Victorian Fruit Marketing Association and the Orchardists' and Fruit Cool Stores' Association. The last mentioned carried a resolution at its December quarterly meeting in favor of amending the Vegetation Diseases Act so as to give departmental inspectors power to enforce the chopping out of neglected fruit trees.

the sulphur chamber. Each half fruit is then taken and the skin stripped off with the thumb and forefinger and the fruit placed on a clean tray. It is essential that the tray be clean, because if there is any foreign matter either the Peach will stick to it and be torn when being removed from the tray or the foreign matter will adhere to the fruit and detract from its appearance and value.

Experience to date would seem to indicate that it is profitable to peel only good quality fruit; small Peaches become too small after peeling and drying. The cost of peeling approximates the cost of pitting, and as there is some loss of weight it would appear that higher prices and smaller grades standards are necessary to make the drying of peeled Peaches a commercial success.

INTERSTATE CONFERENCE, JANUARY 29.

A conference of representatives of the dried fruits industry will be held in Melbourne on January 29, when Western Australia, Sth. Australia, Victoria and N.S.W. will be represented.

Amongst other matters that will be discussed is the question of control legislation in view of the pending appeal to the Privy Council on what is known as the James Case. Whichever decision is given in London early in 1936, it will definitely affect the dried fruits position in Australia as related to interstate trade.

Another matter that will probably receive consideration is how increased planting of dried fruit vines can best be prevented in the interests of the industry.

1936 PALESTINE FAIR.

To be Held at Tel-Aviv.

Reports of the success of the last Levant Fair, which ran 40 days, and had an attendance of over 600,000, encourages the belief that the fair to be held at Tel-Aviv in the spring of 1936 will surpass its predecessors.

Announcements state that the fair will be on a larger scale, that special transportation rates will be in effect, that a commercial intelligence bureau will be maintained at the fair, and that a travel bureau to be opened at the fair grounds will arrange hotel reservations upon advance request. A customs clearing and transportation service for the benefit of exhibitors also will be established. Arrangements are under way for holding conferences of chambers of commerce, manufacturers' representatives and commission agents.

The geographical location of Palestine and the fact that the population of Tel-Aviv embraces nationals from almost all countries, contribute to its possibilities as an exhibition centre.

???

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The Overseas Prune Market

As affecting Australian supplies to Great Britain, the following report of the N.S.W. Marketing Bureau for December 11, is significant:

The 1935 European Prune supplies available for the major European markets are about 28 per cent. less than last year, but about the same as the five-year average for the years 1929 to 1933. The combined exportable surplus of Yugoslavia, Bulgaria and Roumania, together with the production of Prunes in France, is about 25,300 short tons this year, compared with about 35,000 short tons in 1934. The crop in the most important producing areas of Europe, the Danube Basin, was damaged by the cold weather, which also reduced fresh fruit production throughout most of the European importing countries.

American supplies of Prunes in Europe may expect greater competition in the future from greater European production, largely because of the assistance being given the industry by the governments in the producing areas of the Danube Basin. The Government of Yugoslavia has been interested in the replacement of old and diseased trees with extensive commercial plantings. The Bulgarian Government has given considerable attention to improving the quality of the product, as well as assistance to the producer, in the form of partial compensation for export losses, lower freight rates, extension of credit and exemption of processing plants from certain taxes. Formerly Roumania imported considerable quantities of Prunes; recently, however, Roumania has been able to supply the domestic market and export small quantities, mainly because of the establishment by the government of a number of modern drying plants. However, it is improbable that Roumanian Prunes will become much of a factor in foreign markets, because of the small size of the product.

The estimate of the production of Prunes in N.S.W. for 1935 is 1,728 tons (the final figure not being available, as small quantities are still being received at the packing houses), as against 1,626 tons in 1934 and 1,912 tons in 1933.

The marketing of American Prunes in Europe continues to be affected by trade restrictions. Prior to the present exchange difficulties, Germany imported about 26,000 short tons from the United States in the 1933-34 season. In the period September-July, 1934-35, Germany imported less than 3,000 short tons of American Prunes. On the other hand, imports from Yugoslavia into Germany increased from about 7,500 short tons in the 1933-34 season to over 11,000 short tons last season up to August. At the present time it is stated there are no indications that trade restrictions will be relaxed for the current season, either in Germany or other highly restricted markets. In Belgium the market this season should be somewhat more favorable, since the recent reciprocal trade agreement with the United States reduced the Belgium import charge on Prunes by about 24 per cent.

Last season the United Kingdom became the largest foreign market for

American Prunes, displacing Germany, which had held this position for many years. Competition from other sources of supply is small in the U. Kingdom market, even Empire countries, which receive preferential tariff treatment, marketing only a few thousand tons. Although London stocks of American Prunes at the end of the last crop year were high, imports of Prunes may increase moderately over last year because the lighter English fruit crops may tend to increase demand in the rural districts, and particularly so if prices of Prunes are lower than last year.

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Already the buying of Australian produce by the English society has reached an enormous volume, and includes wheat, lambs, butter, eggs and canned, dried and fresh fruit.

GREETINGS ACKNOWLEDGED.

The Editor acknowledges with pleasure the receipt of cards of greetings from Mr. and Mrs. A. E. Hyland, London, from Mr. F. Larder and staff, London and North-Eastern Railway (Docks and Overseas Trade Department), London; Westralian Farmers Ltd., Perth; and H. A. Court, Roli-gana, N. Tas.

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1936 Crop Reports from Australian States

Forecast of Prospective Yield and Survey of Crop Conditions in N.S.W. as at December 7, 1935.

Apples and Pears Lighter Than Last Season.

THE FOLLOWING SCHEDULE sets forth the anticipated yields of Apples and Pears in the chief areas of production in New South Wales as at December 7, 1935.

Generally, seasonal conditions were adverse during the blossoming and setting period. In a number of centres the bloom was profuse and the setting heavy, but subsequent abnormal shedding resulted in many very light crops and, in some instances, failure.

The prospective crop is considerably smaller than the forecast yields of season 1934/35 (Apples 1,800,000 and Pears 346,000 bushels), more particularly in respect of Apples.

It should be noted that the forecast refers to the fruit at present in sight and which, under normal circumstances, will be harvested. As the crop is subject to reduction by hail, winds, pests, diseases, etc., until picked, it will be understood that smaller yields than those indicated hereunder may result.

Information relative to conditions and anticipated yields was supplied by Fruit Inspectors (Field Officers of the Department of Agriculture) and honorary correspondents, the former stationed within the several producing centres and the latter growers engaged in the industry who have willingly co-operated; this assistance is greatly appreciated.

C. G. Savage, Director of Fruit Culture for Director of Marketing, December 16, 1935.

Schedule.	Prospective Yield. Bushels.
Apples.	Variety.

Variety.	Yield. Bushels.
Granny Smith	432,000
Jonathan	247,000
Rome Beauty	77,000
London Pippin	65,000
Tasma	53,000
McIntosh	37,000
Gravenstein	46,000
Cleopatra	20,000
Delicious	44,000
King David	15,000
Carrington	14,000
Other varieties	130,000
Total	1,180,000

Pears.	Williams
Packhams Tr.	101,000
Winter Cole	28,000
Winter Nelis	4,000
Beurre Bosc	33,000
Beurre de Cap.	10,000
Josephine	6,000
Other varieties	26,000
Total	308,000

Survey of Crop Conditions as at December 7, 1935.

Apples

Albury:

Around Lavington locality, good spring rains were received. Granny Smith set well but shed freely and are still falling. Most other varieties light, Dunn's, McIntosh Red and King David noticeably so.

Nearly all growers report that, with the exception of G.S., it is the lightest crop for some years.

Bathurst:

At the close of November good rains were received and conditions at present are favorable.

At Kings Plain (Blayney district) varieties lightly cropped last season set well. Subsequent shedding heavy, noticeably with Delicious which earlier promised from three to four bushels, and are now only carrying about quarter to half case per tree. Jonathan, Romes and Dunn's mostly light, while Tasma, Pomme de Neige, King David and Cleos, fair; Londons mostly good, but McIntosh Reds a failure. A fair to good harvest of Granny Smith expected. In the Newbridge centre, some heavy crops of London Pippin and Lord Wolseley are in sight and there is a good showing of Jonathan and Williams Favorite. Tasmas set well, but Gravensteins failed. Light yields are expected from Granny Smiths and Delicious as the trees are mostly young.

Setting at Yetholme very poor excepting Jons. (medium on trees not heavily laden last year). Romes and Cleos, half normal crop at Ilford; other varieties light. Slight hail damage in Rydal centre; generally trees only moderately cropped, but fruit growing well.

Around Hartley crops light, especially on the older trees which shed badly owing to dry weather. In some orchards G.S. are good, but generally very light on old trees. McIntosh Red, good and Tasmas moderate, but low yields only of Jons., Londons, Del. and K. David are in prospect.

Generally all varieties lightly cropped in the Running Stream locality; the fruit, however, should be clean and well-grown. Generally Jons. and Romes showing best at Blackheath.

Viewed as a whole, the Apple crop is light and in some instances has failed.

Batlow:

Weather conditions favorable.

Grannies fairly light owing to heavy crop carried the previous season and from damage caused by snow-storm in April last. Other varieties very patchy, ranging from light to good.

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New South Wales Crop Reports (Continued)

The best crops, with the exception of Yates, are those of King David, Romes, Londons, and Tasma. With regard to Yates, relatively high yields are expected as the trees are large and fairly old.

Goulburn:

Season abnormal. Some varieties are still shedding their fruit. Jons. and Tasma best. Pomme and Dunn's are said to be failure. Fair to good crops of Londons and Gravenstein are in sight in Crookwell orchards, but other varieties in most orchards are light. At Parkesbourne, Gravenstein, Londons and McIntosh light, and Del. failed to set. Jons. and Romes good. Rymers heavy, but G.S. only about half normal.

Around Yass, Jons. and Romes promise fairly well, but G.S. and Londons have practically failed. The light crop in the Penrose locality is largely attributed to the effects of a disastrous hailstorm last season. In a number of instances the yield in sight is not likely to reach ten cases per acre.

Londons are very scarce at Boorowa this year following the heavy crop last season, and G.S. and Rome are also light. All other varieties showing fair yields.

Tallong-Mittagong-Camden:

Crops extremely patchy in Tallong centre. On a few isolated trees of Jon., Del., London, G.S., Buncombe and King David an average crop is to be seen, but on the major portion there is practically no fruit.

Around Mittagong, weather was unfavorable; strong winds and dry conditions reduced 20 per cent. of prospective yield. Jon., G.S. and Rome, fair to good, but in a number of orchards setting irregular. Most other varieties very patchy. Where spraying was carried out the fruit is very clean.

In Lakesland orchards generally a medium crop of unblemished fruit is apparent; a few varieties have set heavily. Seasonal conditions favorable.

At Oakdale, the cropping of McIntosh Reds was irregular, but on the whole a fair yield expected. There

is a good set of Jons. and Carringtons are exceptionally good. Grannies range from fair to good, while Del. very satisfactory; most of the latter crop is on young trees. Grav. patchy (fair to light). All varieties clean and fruit sizing well.

Around The Oaks, the heavy G.S. crop is making excellent headway, and good quality fruit is expected. Jon., McIntosh Red and Carrington medium, Del. light.

In the Camden centre, G.S., Jon., Grav., McIntosh Red, King David and Mobbs Royal blossomed heavily; some trees of G.S. shed a fair amount of fruit, but generally good yields anticipated.

There is a good crop of Carrington at Wedderburn, but G.S. light. On a limited number of trees Jons. have a medium showing and from Cowells there are prospects of heavy yields.

Northern Tableland:

Recent weather favorable. An abnormally heavy set of Apples, particularly G.S., but subsequently drop reduced prospective yields. In the Arding locality, consistent cultivation is said to have prevented to a great extent any marked shedding,

and generally good crops of Jon., London, Tasma, Grav., Twenty Ounce, Rome and G.S. are reported. At Kentucky, G.S. appear to have best prospects followed by Jons. and King David. Rome, Del. and Tasma are lightly cropped. Generally speaking, Del. light throughout.

Orange:

Conditions during November were in the main unfavorable, but two inches of rain early in December improved the position.

Tasma, R.B., McIntosh Red and Grav., fair to medium. G.S. patchy; there are some good crops, noticeably in the Forbes locality and in the vicinity of Orange. Around Stuart Town, G.S., McIntosh Red and Dels. are reported to be medium to good, while Jon. and Pomme set particularly well.

Most varieties have cropped moderately well at Molong, and the fruit is developing satisfactorily.

Young:

Good soaking rains were received early in December and conditions are now favorable. A recent hail storm is reported to have caused considerable damage to three orchards in this district, estimated at 50 per cent. of the crops. G.S. heavy in some orchards but in others there is no fruit. Jons. set patchily. Cleos. medium, Dels. moderate to light and other varieties light to almost failure.

At Kingsvale and Waterview, crop generally light, Jon. with a medium setting being the exception.

In the Wallendbeen locality, G.S. moderate, while Rome, Jon. and Cleo. are good.

Murrumbidgee Irrigation Area:

Generally hot and dry conditions prevailed until December 2, when a storm, accompanied by rain, hail and strong winds, occurred. Damage from hail appears to be confined to isolated orchards, noticeably in the Leeton district, and in those affected the fruit is badly marked.

In the Griffith and Yenda portions, generally very heavy crops of G.S. are apparent on both old and young trees. Around Leeton, there are some excellent showings, but others are poor; generally, the crop in this sector can be classed as medium to good. King David and Jonathan are carrying light crops, but good yields of Cleo. should be obtained. Fruit sizing well. Spraying operations for moth control in commercial orchards have been well carried out.

Coastal.

Hawkesbury River:

Recent strong winds caused losses in some orchards. Marketing of Allsopps, Carrington and Willie Sharp proceeding, fruit mainly medium size. Later varieties are filling out well, but crops are lighter than those of the earlier kinds.

Kenthurst-Glenorie:

The heavy crop of Allsopps comprises mostly small-sized fruit and about 50 per cent. has already been marketed. It is estimated that 30 to 40 per cent. of the heavy Carrington crop will be too small for ordinary market purposes. G.S. and Jons. mostly very lightly cropped, but are developing normally.

All Willie Sharp trees are young, and fair yields are in sight; some of the fruit is being marketed. Mobbs Royal and Lord Nelson are also fair and Twenty Ounce are good; these varieties have developed satisfactorily and harvesting has commenced.

Parramatta-Penrith:

Dels. lightly cropped, but other varieties satisfactory. Carrington, Allsopp and Twenty Ounce are being harvested. Where thinning out was practised the fruit developed well.

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N.S.W. CROP REPORTS

(Continued)

Windsor:

Warm and moist conditions prevailed at date of report. Very little attention is given to Apples in this district; few growers are taking up the planting of early maturing varieties to cater for the Christmas market for "cookers." Harvesting of Allsopp, Carrington and Mobb's Royal is being carried out.

PEARS.

Albury:

Williams and Packham's Triumph are the chief varieties grown in the Lavington centre, but they failed to set well; crops very light.

Bathurst:

In the King's Plain locality, crop almost a failure. With the exception of a small area of Williams, which promise well, was light at Newbridge. At Ilford, Packham's and Williams, about 80 per cent. of normal, Beurre Bosc about 60 per cent.

Although not many Pears grown around Hartley, setting fairly satisfactory; some varieties shed badly. Fruit clean and, except where marked by hail, should be good; generally, it is more forward than at this time last season.

At Running Stream, Williams good, but other varieties light. Pears very light at Blackheath.

Batlow:

Crop fairly good. The outstanding variety is Winter Cole, with Packham's and Williams having the next best prospects.

At Kunama, where there are considerable numbers of Bosc, Williams, Nellis and W. Cole trees, crop practically a failure.

Goulburn:

In some orchards crops fair to good, others light. At Crookwell, crops light (Williams best). Around Parkesbourne and Yass, Williams promise satisfactorily; fruit clean and developing well.

At Penrose, Pear trees withstood last year's hail storm better than Apple trees, and in the main are carrying a good deal more fruit. Generally fair yields are in prospect around Boorowa.

Tallong—Mittagong—Camden:

Aged trees show fair crops about Tallong, but general average low, as most trees young; setting irregular in Mittagong locality. Howell, Glou Morceau and Winter Nellis fair, most other varieties light.

Williams and Capiaumont satisfactory in Lakesland orchards. Packham's Bosc and Howells, however, light. The fruit exceptionally clean. Williams and Packham's medium in The Oaks locality; Williams fair at Camden. P.T. good. Packham's and Williams medium at Wedderburn and Oakdale.

Northern Tableland:

At Kentucky, Williams, Packham's and Bosc fair, Josephine, Winter Nellis and Winter Cole very light. In the Arding locality crop generally good. Williams fairly good, Josephines and Winter Coles light.

Orange:

Williams, Packham's, Bosc and Capiaumont average, others only fair.

At Molong Pears light; at Stuart Town, Williams and Packham's heavy—fruit well grown and clean.

Young:

Packham's moderate, slightly better than Williams.

At Kingsvale, crops medium to good for all varieties. Williams best in Waterview; others light.

Murrumbidgee Irrigation Area:

Both Williams and Packham's promise good to heavy yields in the Griffith sector; the latter variety appears to be carrying the most fruit. At Leeton crops medium to good.

Coastal:

Hawkesbury River:

A much better crop this season than last; fruit fairly clean, growing well, and should be of good size for Coastal fruit.

Windsor:

There is a fair crop of Williams, which are usually marketed early. Other varieties, particularly Keiffers, developing well.

MURRUMBIDGEE APPLES ARE EARLY.

But Granny Smiths Should Not be Exported Before Mid-February.

AN INTERESTING REVIEW of the situation as regards the growing of Apples on the Murrumbidgee Irrigation Areas of N.S.W., is to hand by courtesy of Mr. H. V. Smith, manager of the Batlow Packing House and Cool Stores Co-op., who recently visited the "Areas."

Mr. Smith's impressions are as follow:—

At the recent conference of the Australian Apple and Pear Export Council at Hobart, a motion was carried recommending all States to fix maturity dates for the first shipment of various varieties of Apples.

Much of the discussion, and the bulk of the criticism was centred on the Granny Smith Apples from the Murrumbidgee Irrigation Area, New South Wales, it being contended that they were immature when shipped in February, and had an adverse effect on the sales of later shipments. There is sufficient truth in the contention to give growers in the "Area" cause to consider whether their best interests are being served by the very early shipments.

I have always contended that the Grannies from the Area could be shipped by the end of February and be just as mature as Grannies from the later mountain districts of N.S.W. shipped by the end of March and still have no doubt as to the correctness in general of that judgment. It would be folly for the "Area" to forego its natural advantage of earliness. The more Apples we can get away from New South Wales in February the better.

Last year there was a tendency to overdo the "earliness" feature, and picking of Grannies was commenced the last week in January to pack for a ship loading on February 10. Sizes down to 234 count were submitted for this ship. In addition the crop was heavy and the season late (due to a mild summer), also there were large quantities of English Bramleys and American Newtown Pippins on the market, so everything was against these early Grannies.

For the coming season the position is largely reversed—the season is shaping earlier and the fruit is on

the large side—the English Bramley carry over will be very light, the demand for early shipments is strong.

At a meeting of the New South Wales Apple and Pear Export Association held in Sydney recently it was decided that the first shipment of Grannies from the Murrumbidgee Irrigation Area and Camden should not leave before February 15, and that a suggestion made by Mr. D. Atkins, Chief Inspector, Dept. of Agriculture, that no 2½ size Grannies be permitted export before March 1 be approved. Dates for the forwarding of shipments from other districts were also fixed.

This decision should assist in preserving the reputation of the Irrigation Area Grannies. Much of the criticism levelled at these early shipments of Grannies is due perhaps to a lack of knowledge of the conditions under which they are grown. "Area" conditions are far different from those of Apple districts of other States. These Irrigation Area Apples are grown in a district with about a 16 inch rainfall—the climate is dry and hot—the cultural programme followed by the majority of good growers is water every eighteen days, cultivate every eighteen days, spray for

codlin moth every eighteen days. In addition, many use a complete fertilizer up to 6 cwt. per acre—3 cwt. about a month before blossoming, 3 cwt. after the fruit has set.

The combination of heat, moisture, and fertilizer means a short growing season, and it is surprising how quickly the fruit sizes up and matures. There are no fungus diseases of the Apple and Pear to contend with on the "Area" and no woolly aphids—hence the only spray used is for the codlin moth, for which the white oil and lead combination is favored. Since no Bordeaux or lime sulphur sprays are used, and the rainfall is very light, a beautiful clear skinned fruit is produced and moreover this fruit will keep. In our cool stores we have just inspected some Grannies from the Area placed in store here last February. Their condition is still good.

Allowing that very thorough spraying for the codlin moth is carried out the Murrumbidgee Irrigation Area appears to me to have a great future in the production of such varieties of pome fruits as Granny Smith Apples, Packham's Triumph and Josephine Pears.

Victorian Fruit Crops.

Estimated Apple Crop of 2½ Million Bushels is Slightly Heavier than 1935. Pears, Peaches and Apricots, Good Crops; Plums, Light :: Citrus Developing for Good Yields :: Vines Satisfactory.

VICTORIAN FRUIT CROP prospects are set out in a report from the Horticultural Division, Department of Agriculture, received on December 5. The following is stated:—

The very irregular weather, alternating with hot north winds and extreme cold changes, has resulted in injury to foliage in some areas. Spray injury has occurred in patches in some districts where spraying was carried out during the extreme heat of the day.

Apples.

The hailstorms in certain localities on November 12, followed by a heavy storm throughout the State on the 15th, accompanied by hail in certain districts, have been responsible for reducing marketable fruit in some, but not all, districts. A few weeks ago the development of black spot promised to be rather serious, but the present prospects for cleaner fruit are now more favorable. Nevertheless, there are indications that too many Apples will be affected with this fungus, and may somewhat reduce the quantity available for export.

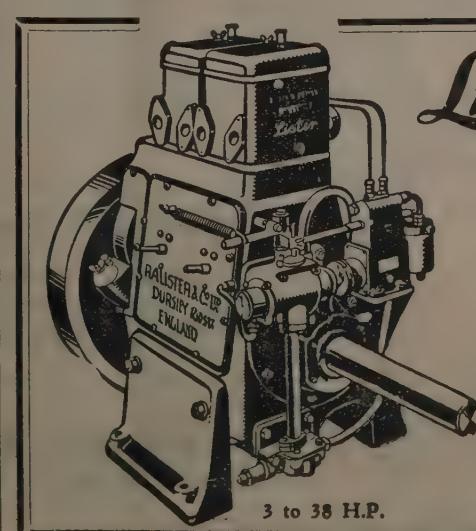
Some districts are lighter than others, but, taking the State as a whole, there are indications that the

Apple crop will be a little greater than that of 1935. The present estimate of production of Apples for the State for the 1936 season is approximately 2½ million bushels, or a little more. The 1935 crop was 2,085,018 bushels. If wet conditions are experienced between now and, say, February, black spot may further reduce the marketable quantity, although it now appears that hail-marked fruit will lighten the commercial crop to a greater extent than black spot. Codlin moth is also a factor that must not be overlooked.

There appears to be quite a good crop of the chief export variety, the Jonathan. Of the other favored kinds, Granny Smith, Stewarts, Yates and Rome Beauty are fair to good, and London Pippin, Delicious and Dunns are fair. Other varieties not so important from an export point of view vary from medium to good. In isolated areas, crops are very light.

Pears.

Taking Pears as a whole, there are good crops, particularly the main export varieties, such as Beurre Bosc, Packham's Triumph, Williams Bon Chretien, Winter Nellis and Winter Cole. Josephines are from light to medium. Beurre Bosc appears to be carrying the heaviest crops. Other



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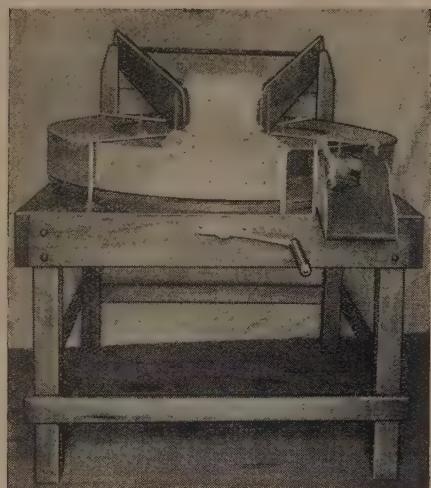
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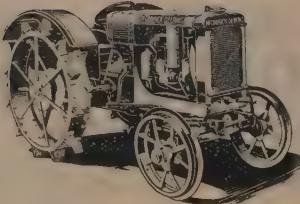
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Victorian Crop Reports (Cont'd)

varieties are on the whole good. As with Apples, black spot will take toll of Pears. Codlin moth will also cause some loss. The present indications point to a crop of approximately 1,100,000 bushels.

Peaches.

Peaches have set a good crop; this applies to both canning and dessert varieties. Some kinds are carrying heavier crops than others. A normal crop of Peaches is 1,000,000 bushels, and at the moment it is estimated that the 1936 crop will equal this.

Apricots.

In looking over the Apricot orchards in most parts of the State, it can be seen that the crop is heavier than last year, and if all goes well a full crop can be expected. The usual production of Apricots in Victoria is approximately 320,000 bushels, and the promise this season is for 400,000 bushels. Some trees are carrying heavy crops, in such instances, intelligent thinning out should be applied, otherwise the size may be disappointing and not up to requirements of the canneries.

Plums

are carrying a medium to light crop, and Berry Fruits promise to be satisfactory.

Oranges.

The main varieties — Navel and Valencia, as well as the few other odd kinds grown, show good promise for a crop next year; even with the usual "drop" in December, it will be found that our production will be at least an average one, and probably a little higher.

Vines.

Favorable reports have been received this month from all the vine-growing centres of the State. The spring has been reasonably dry, and fine weather was experienced during the flowering period. Black spot was prevalent early in the spring, but in most cases it received due attention at the right time, and the weather lately has not particularly favored its spread. However, there are a few instances in the Swan Hill district where the disease has practically wiped out the Sultana crop. It is notable that the vineyards which are clean to-day received an iron sulphate swab or double strength Bordeaux spray before bud-burst, followed by two very early Bordeaux sprayings after the shoots had appeared.

These early sprayings are not only cheaper, but far more effective than numerous sprayings applied after the disease has established itself.

At Rutherglen, the weather conditions early this month appeared extremely favorable for an outbreak of downy mildew, but the vineyards were very thoroughly sprayed at this period, and so far no losses have been reported from this trouble.

The vineyards in all districts are looking particularly well.

Later:

Since the last report, states the Department of Agriculture, very variable weather has been experienced,

hailstorms, windstorms, and heat waves occurring. Fortunately, the losses were all localised.

Still the Apple crop is somewhat "patchy." For instance, in one district, Jonathan is showing an 80 per cent. crop, while Granny Smith is only showing a 40 per cent. crop. Again, in some districts where, earlier, it was thought that there would be very few settings of Romes and Londons, good crops are now seen. It is very noticeable everywhere that where provision has been made for cross-fertilisation of blossoms, good heavy crops have resulted. This is noted in both northern and southern districts.

The Pear crop is generally good, and will be quite up to the estimate provided last month. The Pears spotted by hail in the Mornington Peninsula earlier in the month are growing away from the marks rather satisfactorily.

The citrus crop is developing well. As reported earlier, there is generally a very heavy blossoming, so that the trees could afford to cast a good percentage of flowers and early fruits without a depletion of the crop. The December drop has been normal, and it is expected that of most varieties a good crop will result.

In the Swan Hill district a heavy crop of Valencias is showing; in the Rochester areas this variety will be light; at Mildura they are patchy. At Mildura, Navels are setting very well, the drop being a little heavier than usual owing to extremes of temperature, and to winds. Navels are good at Swan Hill, but reduced at Rochester.

It would appear that the citrus crop will be very irregular this season, but, taking all districts into account, it will be above the average.

The December estimates for the coming Grape harvest are somewhat more conservative than those issued earlier this season.

At Mildura the Sultana is reported to have set fewer bunches per vine than normal; and at Swan Hill, owing to dryness and hot winds during the early part of the month, a fair amount of berry drop occurred on some of the heavy soils. Black spot earlier in the spring reduced the production of a few blocks very considerably, but for the last two months practically no damage from disease has been observed.

The light brown Apple moth has been fairly noticeable in the irrigated areas this season, but as most growers have included lead arsenate in the Bordeaux mixture for the "berry cover spray" very little damage has resulted from this source.

The Currant, Waltham, Ohanez and wine varieties have set well, and an early vintage of high quality is predicted.

Eelworm (*Heterodera marioni*), the nematode causing the root knot, has been observed attacking the roots and hampering the growth of vines in the Geelong district. Unfortunately, it is not possible to recommend an economical artificial method of controlling this organism over broad acres, nor will a change of crop overcome the problem, as many of the pasture grasses are a host to the nematode.

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South Australian Fruit Crop Prospects

APPLES, MEDIUM; PEARS, LIGHT; CITRUS SHOWING FOR GOOD CROPS.

Compiled December 3, 1935, by A. G. Strickland, M.Agr.Sc., Chief Horticultural Instructor.

Apples.

In the recognised biennial cropping sequence, 1935-36 constitutes the "on" year, and early anticipations were for a heavy crop of Apples in this State. However, despite an excellent blooming, appreciable shedding of small fruits occurred, so reducing the prospects to a quantity somewhat below the average "on" year total. It was noted that setting was poorer in orchards which bore good crops in 1934-35, as a result of frost losses in the previous season.

The spring weather has been exceptionally favorable to the development of the black spot fungus, and of the potential crop, a considerable quantity has been so blemished as to render it unfit for export. So troublesome has this disease been, that in some orchards much fruit will be absolutely unmarketable—thus further lowering the State production.

It is estimated that the State production in 1936 will be on present indications, 800,000 to 900,000 cases, but approximately half of this quantity has been rendered unfit for export by black spot. Cleopatra, Granny Smith, and Rome Beauty have suffered heaviest damage; Jonathan, Dunn's, Stone Pippin, London Pippin, and Rokewood being far less affected.

Sectional reports of district officers are as follow:

Northern: Mainly Cleopatras. A good, but not exceptionally heavy crop has been reduced to a medium crop through black spot damage.

Mount Lofty Ranges, North: Jonathan and Cleopatra have set good to heavy crops; Dunn's, Stone Pippin and Rokewood patchily light to good, and Rome Beauty and London Pippin, light crops. Losses through black spot estimated at 5-10 per cent. in the case of Dunn's, Stone Pippin, London Pippin, Rokewood, and Jonathan, and 30-50 per cent. in the case of Cleopatra and Rome Beauty.

Mount Lofty Ranges, South: Good flowering, but heavy shedding, and crop a little below the "on" year average. Approximately 50 per cent. of the crop will be unsuitable for export on account of black spot damage.

South East (mainly Coonawarra): A good crop was set, and black spot was not unduly troublesome. A recent hail storm has, however, greatly reduced the amount of exportable fruit.

Pears.

Pears bloomed well this season, but generally suffered heavy shedding of young fruits.

In the Mount Lofty Ranges, Williams' Bon Chretien, in spite of heavy blooming, are now showing light crops only.

Other varieties are patchy and only 50 per cent. of a normal crop is expected. Black spot has not been exceptionally troublesome.

In Northern districts, Williams' B.C. will only yield a moderate crop; Glou Morceau is carrying heavy crops and Josephine, good crops. The Murray River areas produce mainly Williams' B.C. Pears, and light to fair crops are expected.

Apricots.

Good to heavy crops are showing in the Adelaide Plains, but shothole is prevalent. In the Murray areas, patchy, fair to average crops are showing in various districts, whilst in northern areas, the crop is exception-

ally heavy, and will require thinning. At Coonawarra in the south-east, the crop is clean, and somewhat above average.

Cherries.

With the exception of Black Tartarian, most varieties have set good crops. Late kinds are carrying particularly well. In some individual orchards in the Mount Lofty Ranges "shothole" has been responsible for reduced yields.

Peaches and Nectarines.

Generally, Peaches and Nectarines will not produce up to the normal State crop. In Murray areas the crop is light to fair in some more favored instances. At Mypolonga, the crop of drying Peaches will be light.

In the Mount Lofty Ranges flowering was good, but setting poor, and there was a heavy drop of small fruit; here, one-third to one-half normal crop is expected.

In the Northern and Adelaide Plains districts, medium to good crops are anticipated.

Plums and Prunes.

Japanese varieties have set good crops, but European Plums are only light to fair, with expectation of 50-60 per cent. of a normal crop. Prunes are variable, and show medium to rather light crops in districts where they are grown—the crop may average about 60 per cent. or normal.

Berry Fruits.

Generally, berry fruits are cropping well; Gooseberries promise a normal crop, and Strawberries, Raspberries, and Loganberries are giving good returns.

Figs.

A good crop of Figs is shown in all districts, and the Smyrna variety, grown most extensively in the Murray Valley, will give far better results than last season, when overwintering Capri Figs were scarce.

Citrus.

Shedding of small fruit is still proceeding, and it is therefore, a little too soon to forecast prospects. In all districts, however, flowering has been heavy, and good crops are now showing.



A 30-year-old Cherry tree at the orchard of W. J. Moffatt, Blackburn, Vic. Five cases of 40 lb. each were picked from this tree. Size of the tree can be gathered from the fact that the photo shows five pickers at work at the one time—(3 girls, two men).

Almonds.

In the Mount Lofty Ranges and Adelaide Plains, the crop is patchy, and will only be light to fair. Poor setting weather was experienced, and the crop in these areas will probably be about 70 per cent. of normal.

Good average crops are showing in the Murray Irrigation areas.

Grapes.

Drying:

Currents: Good average crops are showing in Murray Valley areas, but in the mid-north and southern districts the crop is lighter than normal. In southern districts, vines made very strong growth, and many shoots were blown off by high winds.

Sultanas: At bud burst, Sultanas showed 20 per cent. to 30 per cent. fewer bunches, and subsequent observation shows that the crop will be definitely light throughout the Murray districts.

Gordo Blanco: Throughout the irrigation areas, this variety is showing a heavy crop.

Wine Grapes:

Wine varieties are generally showing light to moderate crops.

In northern districts, moderate crops are expected; Frontignac and Muscat are light, however, and Doradillos very light.

In the Murray Valley, Grenache, Pedro, Shiras, White Hermitage, and others are average, but Doradillos are definitely light.

Light crops are general throughout the Adelaide Plains and southern districts.

Western Australian Fruit Crops

Apples Good to Heavy.

INTERESTING DETAILS concerning the forthcoming fruit crops in Western Australia, are to hand from the Supt. of Horticulture, Mr. G. W. Wickens, under date December 21, as follows:

With reference to the fruit crop for season 1935/36, I have to advise that the outstanding feature is the Apple crop, which, following on last season's record of 1,228,300 cases, might have been expected to reach only moderate dimensions, is, nevertheless, good to heavy. Not every Apple-growing district is equally favored as, for instance, at Bridgetown the crop is definitely lighter, and at Mount Barker is fully equal to last year's record.

At places such as Kendenup, where young plantations have now reached bearing age, the crop is very heavy, and at Capel also the yield is greater than last season. At Donnybrook and Argyle it is equal to, and in the Hills district near Perth, it is lighter than last season.

Of the main commercial varieties, Cleopatras, Granny Smiths and Yates are carrying heavy crops; Dunns are light; Jonathans medium. The cool weather conditions so noticeable up to the present this summer have evidently suited the orchards, for in all districts the trees are making strong



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growth, and the fruit is certainly larger than is usual at this time of the year, while the quality, particularly of Granny Smiths, promises to be very good.

The Pear crop

last season was about an average one with 103,869 cases, but the major portion of it was comprised of Bartletts, which are principally used in this State for local market requirements. This season there is a good crop of all varieties, and the quantity available for export will be considerably larger than last season, and it is pleasing to note that in spite of weather conditions favorable for *Fusicladium pyrinum*, growers have, in most instances, kept this disease well under control, and the fruit for export will be of good quality.

There is a good crop of Apricots, Peaches and English Plums, but Japanese Plums, on the whole, are a little lighter than last season.

The Grape crop, the most regular in yield of any fruit crop in the State, is about the same as last year.

Citrus trees of all kinds and varieties have blossomed well, but it is too early yet to form an estimate of the crop.

My estimate of various kinds of fruit crops for season 1935/36, and those obtained in season 1934/35 are as follow:

	Season 1934/35, Actual.	Season 1935/36, Estimated.
	Cases.	Cases.
Apples . . .	1,228,300	1,100,000
Pears . . .	103,869	125,000
Apricots . . .	62,760	65,000
Peaches . . .	59,762	60,000
Plums . . .	77,717	70,000
	cwt.	
Grapes . . .	315,121	about the same

WESTERN AUSTRALIA.

Apple Crop Fully Equal to Last Season.

Mr. J. Mc.N. Martin, president W.A. Fruitgrowers' Association, of Mt. Barker, W.A., writing under date December 16, states that the Apple crop in that area is as heavy if not heavier than last season, and the rest of the State averaging out satisfactorily.

TASMANIAN FRUIT CROPS

APPLE CROPS—NORMAL (About 4½ Million Bushels). PEARS—LIGHT.

THE PRELIMINARY FRUIT CROP estimates based on returns furnished by a large number of orchardists throughout the State, have now been compiled by the Department of Agriculture, and indicate an Apple crop ranging from 90-100 per cent. normal.

The Pear crop, however, may be less than 50 per cent. normal.

Weather during the blossoming period for all fruits was typical in nature, sunshine, shower and an average temperature contributing towards a good set on most varieties.

In contrast to many recent springs, spraying conditions were good, and only in one or two districts was there any delay caused by inclement weather condition. Considering the large carry-over of certain fungus diseases from last season, where a full spraying programme has been carried out a very fair control has been maintained to date.

Apples.

With the gradual elimination of the less popular varieties for overseas ex-

port, reworking has been proceeding apace.

Last year it was estimated that 1,500 acres were temporarily out of bearing, and whilst a proportion of this may now be coming into cropping once again any increase will be offset by a further 500 acres reworked this spring.

The removal of some 700 acres of unremunerative orchard, and recent serious frost damage experienced in the Derwent Valley and elsewhere, are also factors which will influence this year's crop probably to the extent of 300,000 or 400,000 bushels.

As regards districts, Northern crops are generally better than Southern, and crops in the Channel areas are below those in the Huon.

The average commercial crop during the past six years amounts to approximately 4½ million bushels; taking this as a basis it is expected that under normal weather conditions 4½ million bushels will be produced, increased size offsetting reduced cropping to some extent in the lighter varieties mentioned.

(1) Generally heavy crops throughout the State are present on Alfriston, Cox's Orange Pippin, Crofton, Jonathan, Sturmer Pippin and Granny Smith.

(2) Average crops are present on Cleopatra, Duke of Clarence, Worcester Pearmain, Delicious and Democrat, whilst Ribston is variable.

(3) Dunn's, French Crab and Tasman's Pride, are very patchy, with Scarlet light in all southern districts.

Pears.

Although most varieties blossomed heavily, following the good crop produced last year the actual set was poor and in some districts the quantity is negligible.

Beurre Bosé is the only variety to approach a normal crop, followed by Glou Morceau, Beurre Clairgeau and Winter Nelis in that order. Winter Cole and Josephine are very light in most districts, whilst other varieties vary from light to very light.

The average commercial crop during the past six years amounts to approximately 275,000 bushels. On this basis the present crop is not expected under normal conditions to exceed 175,000 bushels.

Stone Fruits.

Following the wet summer last season, "brown rot" for the first time here was responsible for any serious loss in Apricots, and this spring in several districts many spurs were killed right out after new fruits had set.

"Leaf curl" was also found more plentifully, and trees suffered root injury from excessive moisture in low-lying areas. However, the trees have now recovered and look generally healthy and are carrying a crop which should develop into something not far short of normal.

Plums in southern districts are very light to light, but about normal in the north.

Peaches, though blossoming heavily will fall below last year's crop. Cherries are average to light in the main growing localities. Quinces are below average.

Berry Fruits.

Berry fruits, with the single exception of Black Currants, promise average to good crops. Gooseberries have already been picked in large quantities, the recent moist conditions ensuring both size and quality. Black Currants appear to have suffered from weather conditions and rust.

This report is based entirely on present conditions and will, of course, be subject to revision from time to time as the season progresses.

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CANNING AND JAM FRUITS

Canned Tomatoes and Products

Growing Universal Uses

STATISTICS show that canned Tomatoes and Tomato products now rank first in volume among all the fruit and vegetable packs in U.S.A., and are close up to canned milk in all canned goods in that country, says the "Western Canner and Packer."

In the Western States, where canned vegetables have leapt from nine to eighteen million cases in the last three years, Tomatoes rank first in vegetables, followed closely by Peas, although lying third to Peaches and Pineapples in canned foods as a whole.

The tremendous and recent industry of Tomato canning enlists the attention of 150 canneries in the West which in 1934 produced over nine million cases and supplied over half of the total Tomato products in tins in U.S.A., with an output valued at over eighteen million dollars.

The History of the Tomato.

Reading almost like a fairy tale is an account of the history of this popular fruit or vegetable, whichever classification is accorded to it.

A native of South America, where it had been grown for centuries before Columbus landed in America, it was introduced into and cultivated in Europe in the 16th century, but was not at first cordially received, according to the "Western Canner and Packer," because it was believed to belong to the "deadly nightshade family," and it was not until the eighteenth century that it was recognised as a wholesome and desirable part of human diet.

The canning of Tomatoes was first attempted by Nicholas Appert, in Paris, towards 1800 A.D., when he called the article "Love Apple." In 1822, H. W. Crosby first packed it in America in Boston, as an experiment, turning out the first commercial quantity in 1847, when several canneries in Eastern States included Tomatoes in their packs. It was not until ten years later that Cutting & Co. produced canned Tomatoes in California.

Coincident with canned Tomatoes came the canning of Peaches, and these became the major factors in the development of the canning industry in America. What new Tomato products will be developed in the future is a matter of speculation. Constant study and research is being continually undertaken, and may provide some surprising developments.

Tomato Paste.

At first, canners put up only whole Tomatoes, but soon they started making puree and various Tomato sauces and soups. To-day Tomato products include more than half a dozen varieties. Italy has been a large exporter of Tomato products to U.S.A., the Parma and Naples districts supplying the finest Tomatoes in the world. Tomato paste was one of their special efforts, but the World War interrupted Italian supplies, and American canners seized the opportunity to take advantage of the market for this commodity.

Several paste canneries were established during the war, and the canmakers had to put out a special 6-

oz. can to care for this new industry. Whilst early packers were mostly Italians and their customers were largely of the same race, now producers and consumers alike are of many races. As showing the development of the manufacture of Tomato paste, the following figures are significant. In cases of all sizes, 1931 produced 96,896, 1932 200,457, 1933 244,830, and 1934 516,997.

Tomato Juice.

Tomato juice and cocktails first came into production in U.S.A. about 1925 as a means of utilising the waste products from Tomato canning operations, but it did not assume large proportions until 1928. Following that year other sorts of juices became popular and Tomato juice shared in the rise into popularity. In 1930 Tomato juice in cans increased by seven times, and in glass by four times, until the following comparison of annual production proves its acceptance as an American table commodity:— 1929, 185,000 cases of all sizes; 1930, 1,388,964; 1931, 3,476,244; 1932, 4,447,043; 1933, 3,873,232; and 1934, 5,578,572.

To-day 57 canneries include Tomato juice in their regular packs.

Other Tomato Products.

As testifying to the versatility of Tomatoes for processing uses, such varieties as catchup, sauce, hot sauce, puree, whole Tomatoes and soup are only some of the various products obtained from the humble Tomato. The addition of Tomato sauce to sardines has created a vast outlet for this product and other miscellaneous purposes are covered by various forms of Tomato products.

Though this is briefly the story of the tremendous development of the Tomato industry in U.S.A. it does not end here. The equipment of factories has had to be made over. Machinery has been invented and adapted to meet this new business, a lot of hand-work has been eliminated, new processes are being evolved. Methods of grow-

ing, and harvesting have been remade, new varieties have been evolved, new methods of packing and distribution have been thought out and merchandising and marketing have been re-cast overnight to meet the insatiable appetite of the world for Tomato products, until the humble Tomato has been enthroned in its high place in the menu of mankind.

Italy, of course, has long specialised in Tomato products, but it may be news to many to know that the production of canned Tomatoes and products in the Argentine is rapidly increasing. Already there are 28 factories in operation. The rate at which the home-manufactured products are displacing the imported products is noted by comparing the importations into Argentine over the past five years. Expressed in cwts. they are: 1930, 295,645 cwts.; 1931, 128,025; 1932, 67,605; 1933, 53,260; and 1934 only 2,940 cwts. were imported.

Canned Orange Juice

Would Australians Respond?

AN Australian who recently returned from U.S.A. is reported to have brought back a can of beer which is on the market. It illustrates the Americans' penchant for canned goods.

In discussing the canning of Orange juice, Mr. Bruce McDaniel, general manager of a large group of Californian citrus distributors, says that the rapid growth of the canned Orange industry and the returns which growers get for fruit used in this form are of vital importance to the Californian industry.

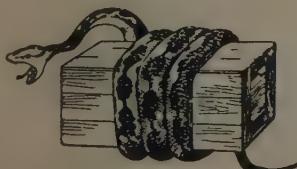
The new A.A.A. offers no objection to interstate movements of certain products, a list of which includes Orange juice, and the natural result will be a tremendous demand for Californian Orange juice in Eastern markets of the country. Since the movement of fresh fruit is regulated it plays into the hands of the Orange juice companies.

The retail price of Orange juice is 7½d. per 15-oz. can, and although other juices, such as Tomato, Grapefruit, Prune, Pineapple, etc., are cheaper, it is anticipated that Orange juice will increase in popularity. It is claimed that a 15-oz. can will contain the juice of eight average Oranges, therefore the grower should receive as much for Oranges for the extract of juice as for consumption as fresh fruit.

Mr. McDaniel argues that this new method of marketing Oranges need not clash with fresh fruit interests, as markets which are not open to fresh fruit could be supplied with canned juice; moreover, distribution could be made easier and foreign markets captured. He further suggests that culls, that would not ordinarily be accepted for fresh fruit distribution, would be suitable for juice extraction. He quotes Florida as canning six million cases of Grapefruit juice and segments last year, and Arizona as processing 30,000 cases, besides barrels representing 30,000 gallons of Grapefruit juice, and concludes that a new vision has opened up for citrus growers in California.

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fish, dessert fruits, fruit salads, soups jams and many other food commodities coming in cans; would it be an outlet for our surplus citrus supplies, and would it be a practical addition to present avenues of fruit consumption? Such questions may be worth serious consideration.

SHEPPARTON FRUIT PRESERVING.

Mr. A. W. Fairley (chairman), addressing shareholders of the Shepparton Fruit Preserving Co. Ltd., said turnover for the year at £513,056, was a record.

There had been considerable consolidation in the company's interests during the year. Authorised capital had been increased to £250,000, and £43,701, being part of the general reserves, had been capitalised and distributed to shareholders in preference shares.

As it had been found necessary to provide for increased depreciation, £15,275 had been apportioned after providing for depreciation and taxation. Net profit was £38,964. Dividend on ordinary shares was 12½ per cent., and on preferences 6 per cent.

During the current year a large programme of additional buildings, machinery and plant will be carried out.

CANNED BERRY FRUITS.

Australian Market Needed.

Something in the nature of a warning is contained in the fourth annual report of the Fruit Industry Sugar Concession Committee regarding the berry canning business.

Owing to large carry-over stocks from the previous year and to the unprofitable state of the United Kingdom market, for the first time on record Tasmanian growers could not place their full supplies of berry fruits in excess of those required for fresh fruit sales. Consequently, some hundreds of tons of fruit were not harvested, and the Commonwealth Government, to meet the sudden loss of the export market, made an emergency grant of £5,000, which will not be repeated.

Owing to damage to berry crops in Great Britain, the demand for Australian pulp strengthened later, and surplus stocks were almost cleared, relieving some anxiety for the present season, but, although the immediate export prospects of the berry fruits industry have improved, they can be regarded only as temporary, says the annual report of the Fruit

Industry and Sugar Concession Committee. "There is still no reason to justify any optimism as to a permanent solution of its problem of over-production by means of substantial and remunerative exports of pulped or canned berry fruits. On the contrary, there is increasing evidence that in the near future British berry growers will press strongly for tariff protection against imports of berry fruits from all sources. Should such a tariff be imposed it is probable that the United Kingdom, which is the chief overseas outlet for the Australian surplus, will be partially, if not entirely, closed."

Until recently substantial unsold stocks of berry pulps — principally Raspberry — were still held by Tasmanian processors or their agents. Those stocks threatened to affect materially the demand for the coming season's production. The Tasmanian Premier (Mr. A. G. Ogilvie, K.C.) on his recent return from abroad, stated that there was no reason why a large market for Tasmanian small fruits could not be built up in several mainland States by care in picking, grading and packing the fruit, the use of suitable types of containers, and adequate publicity.

Giving support to this advice to

Tasmanian growers is the suggestion that English growers may press for the imposition of an intermediate tariff on imported berry fruits at the Ottawa conference in 1936, therefore impressing the necessity for a greater Australian consumption.

COMPANIES' ANNUAL REPORTS.

Good General Advance.

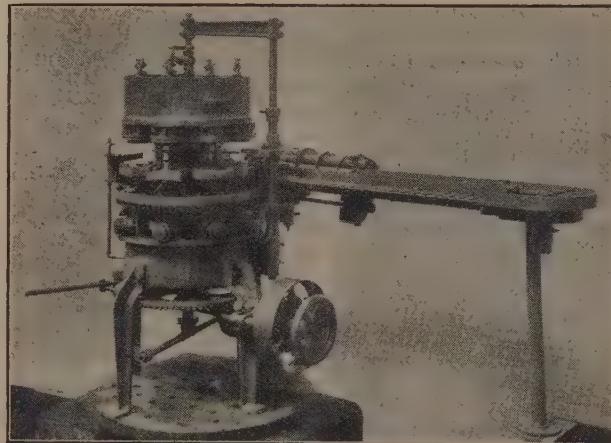
Shepparton. The Shepparton Fruit Preserving Company's report for the year ended October 31 shows that both in quantity and value, sales of fruit created another record, and profits of £38,960 were £12,500 higher than 1933-34. A bonus of 6 per cent. was represented in the capitalisation of preference shares on a one-for-two basis, absorbing £43,700, and £10,920 is being distributed as an ordinary dividend.

Ardmona. The Ardmona Fruit Products Co-operative Co. Ltd. report a net improvement in the liquid financial position of £14,887 after allowing for considerable expense on machinery and plant. The bank overdraft had been reduced to the 1927 level, and a satisfactory turnover had been experienced. The margin of gross profit had exceeded that of 1934, and over £15,000 profit was reported.

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CANNED FRUITS.

Local and Export Sales Increasing.

Slightly more than 800,000 cases of canned fruits were consumed in Australia during 1935, this being the second largest figure on record. The highest figure on record is 850,000 cases in 1934. The carry over is very small and will not affect the market in the coming season.

The remarkable growth in consumption during the last three years is attributed to improved quality, more advertising and suitable prices to consumers.

Although the consumption was slightly higher in 1934, 1935 has been the best season on record owing to higher prices received for the fruit.

The first shipment of canned Apricots to the United Kingdom will be made this month.

SUGAR AGREEMENT BILL.

The Sugar Agreement Bill passed all stages in the House of Representatives on December 5.

Mr. Fairbairn (U.A.P., Vic.) said, that, while supporting the principle of the Bill, he felt the price should be reduced by £4/7/6 per ton, or 1d. per lb. for consumers, and moved accordingly.

Mr. Prowse (U.C.P., W.A.) said that if sugar production were considerably reduced it would be better for all engaged in the industry. For what it cost the Commonwealth to maintain the sugar industry a standing army could be kept in North Queensland.

Mr. Gregory (W.A.) said the proposed reduction could be made without detriment to the people of Australia or those engaged in the sugar industry.

The amendment was defeated by 53 votes to 13.

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Melbourne and Metropolitan Retail
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E. W. THOMPSON, Secretary
Melbourne and Metropolitan Retail
Fruiterers' Association.

The Melbourne and Metropolitan Retail Fruiterers' Association

President, Mr. C. V. Nutt; Vice-President, Mr. H. Kruse; Committee, Messrs. Lewin, Brown, Child, Chetkett, Graydon, Delaney, Marsden, Canestra, Avitable, Aston, Wilkinson, Norris, Holloway, Newman, Cooper; Secretary, Mr. E. W. Thompson; Asst. Secretary, Mr. Wm. Trivett; Treasurer, Mr. Chas. Mawdsley.

Delegates to Vic. United Retailers' Council, Messrs. Thompson and Mawdsley.

RETAIL ASSOCIATION MEETING

Dump v. Upright Cases :: Selling Fruit by Number

[The following information has been received by courtesy of Mr. E. W. Thompson, Secretary Melbourne and Metropolitan Retail Fruiterers' Association.]

THE monthly meeting of the executive of the Melbourne and Metropolitan Retail Fruiterers' Association was held on Thursday, December 5, at which there was a good attendance of delegates.

Among the correspondence was an invitation to be represented at a meeting convened by the Victorian Fruit Marketing Association to discuss methods for the better absorption of the forthcoming Apple crop. As this was considered a matter of vital importance to all in the trade it was decided that the retail section should accept the invitation to be represented, and the secretary was deputed to attend on their behalf. Needless to say, the retail fruiterers are ever willing to confer with the other branches of the industry in any effort to help or improve the trade.

Many complaints were again received in reference to the short weight of Cherries, Gooseberries and Peas at the market, and the secretary stated that the inspectors had been giving particular attention to the matter; he also stated that he had noticed in the press that owing to the large number of bags of Peas offered for sale under the weight marked thereon, Mr. Ward, Superintendent of Horticulture, had issued a warning to these offenders that any other instances detected the offenders would be prosecuted without further warning.

Dump v. Upright Cases.

Several delegates reported interviewing different growers unofficially in reference to the proposed change over from the upright to the dump case for hard fruits, and stated that the majority of the growers spoken to considered it would be a decided improvement on the ones in use at present. The minority who are opposed to the change, should remember the retailer provides the case, and should surely be entitled to whatever suits him best, provided the cubic space is the same.

The up-country grower, who sells through an agent, provides the cases, and almost in every other trade or industry the vendor has to provide the container for whatever article he either grows or manufactures.

A progress report was also given of the recent conference held between the florists, fruitgrowers, market gardeners and retailers to endeavour to improve the parking facilities at the market for retailers' vehicles, and although various suggestions were considered, no finality was arrived at, and the conference adjourned to Tuesday, February 11, 1936. In the meantime, the various delegates will confer with their respective organisations on some of the proposed suggestions. Mr. G. B. Minns also attended.

At the conclusion of the meeting the president wished the delegates the

usual felicitous greetings during the coming financial season.

Selling Fruit by Number.

Now that the regulations have been gazetted making it compulsory for the number of Apples, Pears or Quinces to be plainly marked on the case when these fruits are offered for sale, and which will in all probability be enforced within the next few weeks, it seems imperative that those fruitgrowers who have not previously graded their fruit should endeavour in their own interests to do so. Citrus growers and other progressive fruit growers who have graded their fruit find that it greatly facilitates in the sale, and they could not be induced to alter the system, and those who have not graded theirs will find it advantageous to them also, and will realise they had previously underestimated its value.

The retail fruiterers also realise the advantages to be gained by handling graded fruit, which can then be sold by number, which means saving time, and also saves much handling of the fruit.

RETAIL FRUITERERS' ANNUAL PICNIC.

Wednesday, March 11, 1936, has been gazetted by the Governor-in-Council as a close holiday for the retail fruit traders' annual picnic, which will be held at Queenscliff, per s.s. "Weeroona." A special programme of sporting events has been arranged. It is advantageous to themselves, and

THE VIRTUES OF A PINEAPPLE.

Varieties.

ANYONE suffering from indigestion will derive considerable benefit by the moderate addition of a little Pineapple to their daily diet. The fact is that the juice of a Pineapple is an enzyme—that is something that has the power of splitting up other substances or making them ferment. Yeast, for instance is another enzyme.

Pineapple juice acts on meat in such a way as to make it easily digestible. You can easily test this by taking a slice of raw steak and placing a slice of Pineapple on its upper surface, and before long you will find that where the steak has touched the fruit it has become just like jelly.

Remember it must be fresh Pineapple, as cooked or preserved Pineapple lose the power of helping dyspeptics. It is the fresh juice that contains the valuable qualities, and not the flesh, but for all that it is better to eat some of the flesh as well, as it helps to dilute the violent effect the juice may have on delicate stomachs if taken alone.

As a good-sized Pineapple contains nearly two pints of juice, it is easily seen that even a small piece will go a long way towards assisting the stomach to digest properly.

People who suffer badly from dyspepsia, should always eat at least one slice after dinner and they would quickly realise the above facts.

ROADSIDE TRADING.

AT the last quarterly meeting of the Victorian United Retailers' Council, much discussion took place in connection with the great increase in roadside trading carried on on many of the main roads leading out of Melbourne to the various country resorts, and much indignation was expressed by delegates at the failure of many of the municipal councils to carry out the duties they are reasonably expected to.

Section 49 of the Police Offences Act states: "The local governing body (meaning the local council) shall cause the Sabbath to be duly observed," which, in a great many municipalities is totally ignored, and seems quite inexplicable when councillors permit the public roadways to be converted into common market places.

Excuses have been advanced that it is helping the struggling grower to get rid of his produce; it is asserted that some of his produce that is unfit for the market is often disposed of this way, but that is no excuse for compensation for the injury that is done to the other growers and shopkeepers who conduct their business in a perfectly lawful manner.

It is reasonable to assume also that possibly some councillors may not be aware of the fraudulent tricks perpetrated by these traders.

Inferior fruit is purchased in many instances at the Victoria Market on Saturdays and carted out to sell on Sundays, on a Sunday with in the last month, Apples which were purchased on Saturday were sold on the main road at 8 lbs. a shilling, so the reader can form an idea of the quality. Honey is also bought and sold as pure garden honey, confectionery is sold as home-made, and jams, cream and other goods are also sold, much of which does not even comply with the Pure Foods Act.

The V.U.R.C. Committee decided to write to the various municipalities concerned, drawing their attention to the matter, also the Chief Secretary, and requesting that action be taken to combat the same and to see that the law is enforced against these offenders. They should also be told that the markets, shops, or private property are the only places on which the selling of goods is permitted.

A serious accident was recently narrowly averted through a motorist pulling up quickly at one of these permanent shops built on a public roadway, and it was only by the skilful driving of the car following that the accident was averted.

We have to announce that the Lilydale Shire has decided to adopt a by-law prohibiting roadside stalls throughout the shire, as reported in the "Age," December 7. The council is to be commended on its decision, also the Mulgrave Council, which has recently reaffirmed its former decision to prohibit the roadsides within its boundaries being turned into market places. In the interests of the genuine growers many other municipalities are likely to follow the lead of these two.

At the last meeting of the Victorian United Retailers' Council, Mr. C. Mawdsley was re-elected President for the ensuing year, and Messrs. J. Swannell and E. W. Thompson, Vice-Presidents. This Council is composed of 14 of the principal retail trade associations.

Jean: "Are they in love?"

Joan: "They must be. She listens to him describe a ball game, and he listens to her telling how her cousin's new dress was made."

Orchardists!

ORGANITE

Fertilizer

Used in Great Britain, U.S.A., and on the Continent for more than 30 years.

Nitrogenous - Phosphatic - Rich in Humus

"ORGANITE" is a general purpose fertilizer which is new to Australia. It is exceptionally rich in Humus, and it contains Nitrogen and Phosphoric Acid. In "ORGANITE" the Nitrogen is in two forms, the inorganic form, which is immediately available for the use of the plant, and the organic form, which will last for years in the soil, forming a continuous supply of rich plant food.

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Motor Cars, Trucks, Tractors

OVER-RICH MIXTURE.

Difficulty in Starting.

WHEN an engine proves difficult to start it is generally assumed that the mixture is too weak. Many drivers fail to realise that too rich a mixture may equally be the cause of this trouble.

Difficulty of this kind is very likely to be experienced when an owner-driver accustomed to an updraught carburettor buys a new car fitted with a down-draught instrument. In warm weather the latter requires only a moderate use of the starting mixture control, and is very liable to produce an over rich mixture in the inlet pipe, or even pools of neat petrol, if the use of this control is abused.

Once this condition of over-richness is established it may prove ex-

tremely difficult to start the engine even if the driver realises the cause of the trouble and restores the controls to the normal driving position. In such cases the continued use of the starter motor merely draws more and more of the excessively rich mixture through the engine, so that it takes a long while to clear the cylinders sufficiently to permit the regular firing on all sparking plugs.

An almost infallible method for rapidly clearing the engine, which can be used whenever a slight slope is available, is to force it to turn in reverse. The action of the valves is then such that air is drawn from the exhaust system and blown out through the inlet manifold and carburettor.

Half a dozen revolutions under these conditions will usually suffice to clear the cylinders of the over-rich mixture.

It is not, of course, possible to crank the engine backwards, but the necessary movement can be obtained by rolling rearwards with a forward gear engaged, or by rolling forwards with reverse gear engaged. In either case the clutch should be held out until the car gains a little headway, and, if then engaged, the result will be to revolve the engine in the reverse direction of rotation.

A SIMPLE SKID.

According to Dr. R. N. J. Saal, of Amsterdam, a motor-car will skid "if the horizontal force it exerts on the wheel becomes greater than the friction between the car and the road. This friction is equal to the product of the normal force with which the wheel and the road are pressed together and the co-efficient of friction." Now you know just how that last skid occurred.

USE A TORCH.

If it is necessary to use a light when examining the level of the liquid in the cells of the battery, use an electric torch, never a lighted match or other naked flame. The gases given off by the battery during the process of charging are highly inflammable. Even with the engine stopped, there is no guarantee that the gases are not present in the cells, making the battery a potential bomb if a naked flame is brought near after the filler plugs have been unscrewed. Instances are recorded of serious injury to face and eyes through using a lighted match for inspection purposes. In at least one case the battery box was blown to pieces by the force of the explosion.

OVERTAKING.

Never attempt to overtake another vehicle unless the clear road ahead is at least three times that which is necessary safely to pass the other vehicle and get in front of it. This certainly means hanging back for long distances on narrow and winding roads if there is any other traffic about, but it simply is not worth it to take a chance. Unfortunately there are drivers who are "taking a chance" many times in the course of a run, relying often upon other traffic giving way to them. Perhaps the "kick" that they get out of driving depends upon the number of hazards which they take, but it is a bit rough on the rest of the motoring world.

DUAL PURPOSE TRACTORS.

Much publicity is being given in Germany to what is described as the first serious attempt to render a small or garden type of tractor of the same universal application as the horse team. This machine is certainly different from the majority of previous attempts that have been made, and it differs most radically from the garden tractor as generally conceived. It consists of a 10 h.p. outfit, in which the power unit, transmission and the rear axle, together with the rear wheels, form one unit and are articulately joined to the platform body of the machine, which is also supported in front by two road wheels that have considerable freedom of movement. The main weight of the machine, however, is thrown on to the rear driving wheels to produce the necessary "adhesion pressure,"

and it is said that the tractive effort is exceedingly good. Pneumatic tyres are fitted to both rear and front wheels as standard.

This idea of making a machine of dual purpose or, rather, universal use has been attempted before, but not, it is claimed, in anything like the same way or with the same amount of success. Here is no attempt to popularise small tractors as such, but to attack the problem of the universal machine for the small or peasant farmer in a new way. With most small tractors, various tools can be attached and driven, often in a perfunctory way when delicate or unorthodox operations are concerned, but in this instance the machine has a specially arranged power take-off that delivers ample power from the engine to drive a mower, a rotary tiller or a potato harvester, while a belt pulley can be affixed for stationary and other duties. For example, on the floor space of the motor lorry type of body, various implements and machines can be carried and some of them, such as wet and dry sprayers, liquid manure pumps, sprinklers for irrigation, sawbenches or bandsaws, can be operated irrespective of whether the tractor is travelling or stationary, a factor that is held to be of the maximum utility in the matter of spraying. Moreover, accommodation is amply provided on the lorry floor space for the attendant to control such equipment.

IF STARTER JAMS.

The jamming of the self-starter is caused by the self-starter pinion locking in the flywheel teeth. This prevents the engine being turned by the crank. Engage top gear and rock the car gently backwards and forwards. If this does not stop the jamming, remove the bolts holding the starter to the clutch housing and repeat the performance. This will usually cure the most obstinate cases.

CHANGE COMING.

The city of Hanover (Germany) is making an attempt to substitute gas for petrol for the locomotion of its motor vehicles. There are now gas tanks in the city for motorists, and it is found that three cylinders of gas are the equivalent of about nine gallons of petrol. All the city's motor-driven vehicles will soon be put on a "gas" footing. Motor cars need only slight adaptation to enable them to run on either gas or petrol.

IT'S AS WELL TO KNOW THAT

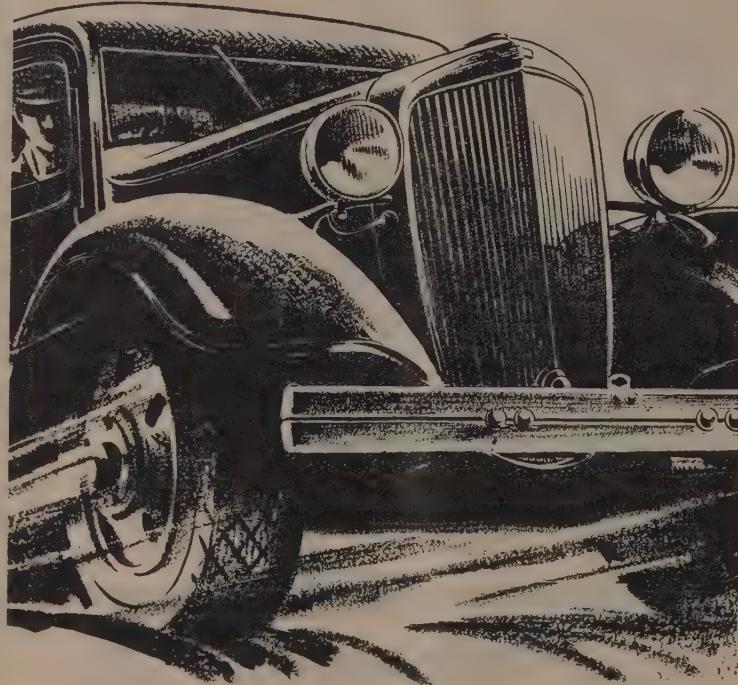
Nothing rots a tyre more quickly than water. Keep the floor of the garage dry, and fill up cuts and holes in the tyres with a vulcanising compound. Oil is also an enemy of rubber.

:: :: :: ::

A piece of old tube tacked to the jamb will often tighten the door and stop an irritating rattle.

:: :: :: ::

Wooden wheels often creak in the summer, and the trouble sometimes disappears after rain or washing. If it persists, work into the spoke joints a few drops of thin oil.



MORE POWER.
BIGGER BRAKES.
NEW PRESSURE
STREAM LUBRICATION.

IMPROVED
HEAVY DUTY
REAR AXLE,
and many other
features.

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Features that have made Chevrolet outstandingly the world's most popular truck, are refined and improved in the new models for 1935. The famous Chevrolet Six-Cylinder valve-in-head engine now develops 70 brake horse-power at the low engine speed of 3,200 r.p.m. Cast iron pistons—proven successful by more than 2,000,000 owners—are retained. Improvements in the easily accessible heavy duty back axle made it sturdier than ever. The heavy duty clutch is now more powerful in final engagement, yet even lighter to operate than before. Brakes have been enlarged and are smoother, more certain in action, and more completely sealed against dirt and water.

Best feature of all is Chevrolet's low price. See the new models to-day. Compare them feature by feature, with any other truck in the market, and you will realise that Chevrolet is the World's most popular truck, solely because it offers the World's finest value.

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Answers to Queries.

GRAFTING LOQUAT TREES—IMMATURE FRUIT.

(Replies supplied by A. G. Strickland, M.Sc., S. Aust., Chief Horticultural Instructor.)

"Clanfield" asks: Because of the damage done by sparrows to Loquats, what variety of fruit could these trees be grafted over to?

Reply: Of the common fruits, Quince and Pear are probably most nearly related. Quince is frequently used as a stock for Loquats, but as the following extract from a report by the Manager of the Blackwood Experiment Orchard will indicate, working in the opposite direction is not common. If the Loquat trees are on Quince stock—which is a possibility—reworking to Pears or Quinces would give a combination of Quince roots, Pear or Quince top, with an intermediate piece of Loquat. The behaviour of such a combination is problematical:

"Grafting Loquat trees with any other variety of fruit has not come within my experience. We have a collection of Loquats worked on Quince stocks, some of which are doing quite well. Since Loquat will do on Quince, Quince might do on Loquat, and as some varieties of Pears will grow on

the Quince stock, a Loquat-Quince-Pear combination might be possible. The Pear might do directly on the Loquat, though I have never heard of anyone trying such a combination."

It was suggested to the inquirer that an experiment should be tried with the Pear as the fruit likely to do best on a Loquat stock.

Plant-Eating Grubs.

Specimens of insects submitted by the Blyth Branch of the Agricultural Bureau were reported to be doing extensive damage in farm gardens. There were identified as "Millipedes."

Reply: These animals are closely allied to insects, but differ from them in many respects, notably as regards possession of two pairs of legs to each segment of the body. The food of millipedes is almost entirely of a vegetable nature, either living or dead. They are commonly found in manure, leafmould, garden rubbish, etc., and are difficult to control.

It has been claimed that a heavy application of lime, thoroughly work-

ed into the soil, will assist in their control; also various soil fumigants such as paradichlorbenzene (usually known as P.D.B.), crude naphthalene, etc., applied to the soil and worked in, have in some instances given temporary check to the pest.

Paradichlorbenzene may be obtained from city suppliers, and one firm also handles a product known as "Seekay" soil fumigant, which may be useful.

When sowing Peas or Beans, if the seed is well dusted with superphosphate before covering with soil, the millipedes will probably not attack such seed so readily. Furthermore, the superphosphate will assist the growth of the Pea or Bean plants.

Plum Tree Dropping Immature Fruits.

The Secretary of the Sutherlands Agricultural Bureau has an Almond tree on to which has been grafted Apricot and Plum. The Apricot carries the fruit to maturity, but the fruit of the Plum drops off when about the size of a marble.

Reply: There are several factors which may cause Plums to drop from the tree at the stage mentioned in this query. However, in view of the isolation of this tree from other Plum trees, it is practically certain that the dropping is due to lack of cross-pollination.

Many varieties of Plum will not set or carry fruit to maturity unless the blooms are fertilised by pollen from another suitable variety of Plum: such process is termed cross-pollination. In order to ensure fruiting of the limb in question, graft on the tree another suitable Plum variety, the blooming period of which overlaps with the blooming period of the Plum variety already worked on the tree. With such provision, bees and other insects will exchange pollen between blooms of the two Plum varieties, and thus enable fruit to be carried to maturity.

Without information as to the variety of Plum already attached to the tree, one cannot make a suggestion as to the identity of the new variety to be attached. However, if the inquirer will prepare during next blooming season a bouquet of blossom of a different Plum variety, blooming simultaneously with the one in question, immerse such bouquet in a vessel of water, and place in close proximity to the tree, he would be able to determine for himself whether the bouquet variety would be suitable as a polliniser. If the name of the Plum variety is known, advice as to its identity may enable me to suggest a suitable polliniser.—S.A. Journal of Agric."

HARVEY FRUIT GRADERS

Colour and Count Grading

THE HARVEY IS 100 PER CENT. EFFICIENT FOR GRADING FLAT APPLES. IT STANDS THE FLAT FRUIT ON ITS TRUE GRADING EDGE, AND THE FRUIT IS NOT KNOCKED OFF ITS GRADING EDGE AND ALLOWED TO SLIDE ON ITS FLAT TO THE WRONG SIZED BINS AS IN THE CASE OF THE MECHANICALLY DRIVEN ROLLER.



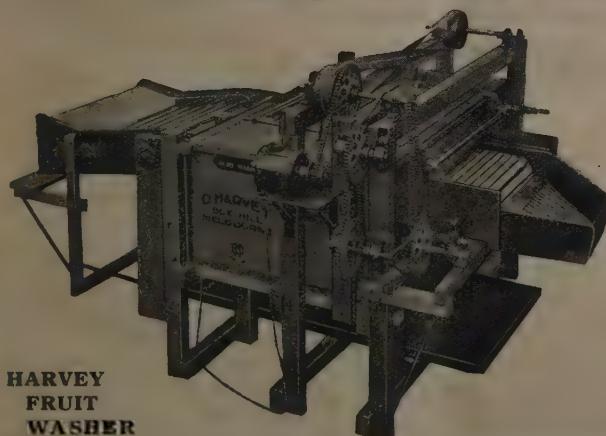
"Harvey" Model 9.C.L.1. Grader with Harvey Roller Sorter Elevator and Automatic Hopper.

START RIGHT—KEEP IN MIND THE FUTURE.

The above Grader can be used as the first unit with second and third units added later for color grading as season demands.

The "HARVEY" GRADER is unequalled for accurate sizing. The patented special new type grading element on the "HARVEY" APPLE GRADER is adjustable to any size desired. Each grade is adjustable without interfering with the grades on either side — no bruising. Multiple speed gear contributes to the efficiency and extends the working range by controlling the speed, as occasion demands. Spring supported packing bins of good depth obviate bruising.

Arsenate of Lead Removed from Pears and Apples By Using HARVEY Hydrochloric Acid WASHER



The Cheapest and Surest Method of Washing Fruit. Enhances Appearance. NO BURNING—NO BRUISING can take place within the Machine itself, which THOROUGHLY WASHES the Fruit, removing all TRACES OF ARSENATE LEAD POISON and Hydrochloric Acid. As the season is fast approaching, please Order Early to Ensure Delivery.

PACKING HOUSE EQUIPMENT

Sorting Tables
Special Pear and Lemon Graders
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Citrus Washing and Sterilizing Plants
Pear & Apple Washing Machines.
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— AGENTS ALL STATES.

More Horticultural Research Needed

Victoria has a larger area under fruit than any other State and is not adequately equipped for Horticultural Research — Pests and disease cause losses to the extent of £275,000 annually — Research should include Stocks, Manuring, Pollination, Irrigation, Disease and Pest Control.

Deputation asks for £5,000 per annum for 5 years.

THE VICTORIAN FRUIT INDUSTRY is united in at least one matter—the need for increased Horticultural Research.

A deputation representing the Orchardists' and Cool Stores Association, Northern Victoria Fruit-growers' Association, Victorian Fruit Marketing Association, Victorian Central Citrus Association, Southern Fruitgrowers' Association, Harcourt Fruitgrowers and the Southern Pear Packing Co. Ltd. waited on the Minister for Agriculture (Mr. Hogan) recently and presented a powerful case for increased Horticultural Research.

As a result it is expected that an experimental orchard will be established at Tatura—where 104 acres have already been purchased by the Government for this purpose.

It is also hoped that the full request of the deputation for experimental orchards elsewhere in the State will be established.

The deputation was favorably introduced by Dr. Shields, M.L.A.

The case presented by the several speakers was substantially as follows:

Victoria with a greater area under fruit than any other State in the Commonwealth is not so well served as are most of the other States in relation to Horticultural Research, while our overseas competitors are indeed much better equipped than we are.

The area under fruit in Victoria apart from vines is 77,173 acres the annual value of the fruit yield being around £3,400,000. The value of plants engaged in processing fruit including wages, etc., is £5,165,283. There are over 7,000 growers of deciduous and citrus fruits in Victoria. The fruit industry is outstanding as regards the labor which it creates, including such items as cultivation implements, pruning labor, manufacture of spray materials, picking,

packing, transport, cold storage, fruit canning, drying and jam making, case making, nails, haulage by railways, wharf labor, stevedores, shipping clerks, shipping freights, etc.

In 1933 Victoria exported 1,837,615 cases of apples and pears; in 1934 1,038,064 cases; 1935 850,000 cases. Shipping freights during the past three years were £784,000.

The average yield per acre according to official figures is as follows:—Apples 131 cases, Pears 122, Peaches 113, Plums 82, Apricots 97, Lemons 114, Oranges 116.

Speaking of Apples, whereas Victoria's average yield is only 131 cases per acre, Tasmania has an average of 189 cases per acre. There is an immense difference between this and the yield per acre at Wenatchee in the State of Washington, U.S.A. The Winesaps from this district are Australia's principal competitor on the British market. There the average yield is 800 bushels per acre with many orchards yielding 1,000 bushels per acre.

Similarly with regard to Canning Peaches, the average yield per acre in the State of California, the principal Peach canning centre of the world and Australia's greatest competitor, is more than twice Australia's yield per acre.

These facts are arresting and show the need for adequate research as we are competing with our goods in the world's market.

Of Victoria's 77,000 acres of deciduous and citrus fruit 65,000 acres are in bearing; N.S.W., however, with 60,000 acres in bearing has seven research stations, Victoria has none. The research stations in New South Wales are at Wagga, Bathurst, Glen Innes, Hawkesbury, Yanco, Narara and Griffith.

South Australia with 29,600 acres under deciduous and citrus fruits has two main experimental orchards, namely at Blackwood in the Adelaide Hills and Berri on the River Murray, also one in the metropolitan area. Two of these are over 60 acres in extent and are completely equipped for experimental work with soils, manuring, irrigation, pruning, spraying, fruit drying, etc.

Queensland with 12,000 acres under deciduous and citrus fruits has an Apple research station at Stanthorpe, and W.A. with 20,000 acres has recently commenced research work at Mt. Barker under the aus-

pices of the Agricultural and Education departments.

Pests Cause £275,000 Loss Annually.

A careful estimate shows that the loss through insect and fungoid pests per year in Victoria is £275,000. This is apart from the much greater tho' less apparent losses which are incurred through failure to secure the crops which would have been possible under better cultural and other conditions of management.

The cost of

Fertilisers for Orchards

in Victoria is around £100,000 per annum. Until quite recent times the emphasis was all on phosphatic manures. As a result of the good work of the Department of Agriculture the emphasis has been completely changed and the emphasis is now placed more upon nitrogen.

In other words up till ten years ago and even five years ago growers were wasting large sums of money per annum in applying to the soil manures which were of little or no practical value.

It is frankly realised that even now we have very incomplete knowledge of this vital phase of orchard management.

Fruit Tree Stocks.

Of the 77,000 acres under deciduous and citrus fruits in Victoria 65,000 acres are in bearing and 12,000 acres non-bearing, so that at the moment there is the relatively large percentage of 16 per cent. of Victoria's orchard area starting out afresh on their presumably long life.

These new areas are being planted out without any really reliable knowledge as to the best types of stocks to use and the best varieties for the purpose required. We have no more knowledge regarding fruit tree stocks than we had 30 years ago. Further, we have no organised system for the introduction of new varieties or new stocks, quite probably this is because we have no reasonable facilities or research stations.

This is in marked contrast to the position which exists in many other countries where the matter of the quality of the crops is looked on as one of the main lines of research work.

There is a very prevalent belief that

the Pear Stocks

in use could be improved very materially if research work is carried out. We are quite in the dark as to what are the best stocks on which certain varieties should be worked.

Soils and Irrigation.

The area under irrigated orchards in Victoria is approximately 19,000 acres. The capital cost of the Victorian Government Country Water

Supply system is understood to be approximately £26,000,000, of which a very considerable percentage has been expended in the development of our irrigated fruit areas in channels, pumping plant, water storage, reticulation, etc.

In the spring of 1931 the total number of mature bearing canning fruit trees which died out in the Shepparton area was 28,000 approximately 14 per cent. of the district's canning Peach acreage. The trees died as a result of soil conditions during the wet winter. Investigations showed that faulty irrigation methods contributed materially to the loss.

A recent estimate reveals a marked decline in the citrus areas in Victoria. Since 1928 it is estimated that there has been approximately a 10% reduction in acreage largely due to the improper cultural and other methods in the irrigation areas.

In the period referred to, the losses of trees had been as follows: Swan Hill district 44,000 trees, North Central 20,500 trees, Goulburn Valley 24,700 trees, Mildura 18,200 trees.

Control of Fruit Tree Pests.

We have had to draw upon the experience of America. From this country came arsenate of lead to combat the Codlin Moth. Since then we still find it necessary to take full notice of the researches of American scientists. When it became compulsory to wash fruit to get rid of the arsenical residue we have again followed America's advice in adopting the use of hydrochloric acid. It was also from this country that the idea came of oiled wraps for Apples in cool stores.

While appreciating the foregoing, the fact remains that we need research work in Victoria to have our problems studied under local conditions.

Faulty Pollination.

Inadequate pollination is responsible for a great yearly reduction from the potential yield in many orchards—probably 20%.

In the conducting of scientific research on various problems affecting the Victorian fruit industry, the Department of Agriculture is very inadequately provided and it is urged that the provision of a properly equipped horticultural research station in the North of the State and another to serve the Southern fruit-growing areas should be established without delay.

In addition we recommend that there should be an extension of certain lines of research work in an increased number of demonstration plots on private orchards throughout the State. This would do a lot to solve many of the local troubles in various districts and would also be of a great educational value in bringing the less efficient growers up to a higher standard.

It is felt by fruitgrowers that the sum of £5,000 per annum for five years would be barely adequate to carry out the programme which we have set forth. This programme is considered to be the minimum which could be reasonably said to meet the present position in the fruit-growing industry.

[In reply the Minister has since notified that a definite decision had been deferred. However, growers' associations are prepared to press for definite action.]

Anti-Bruze Corrugated Fruit Pad

MADE IN TASMANIA

To obtain highest prices your fruit must arrive at its destination in perfect condition.

FULL HEIGHT CORRUGATIONS

CORRECT RESILIENCY

After much research a Corrugated Pad has been produced which is ideal in all respects; namely:—Resilience, Shape, Spacing and Height.

This new ANTI-BRUZE Fruit Pad affords your fruit full protection and enhances its value to the prospective purchaser.

OBtainable FROM LEADING DISTRIBUTORS THROUGHOUT TASMANIA.



Apple & Pear Crop For Sale.

Crop of Apples, Pears, 87 acres; Jonathans, Stewarts, Granny's, etc. Offers wanted. Kongsi Orchards, Bittern, Victoria.

HOPE CAMPBELL, Somers.

NEED FOR REAFFORESTATION

The Importance of Forests in the Circulation of Water

THE IMPORTANCE OF TREE LIFE to the well-being of every country on this planet is not sufficiently understood.

We are indebted to Dr. H. Poate, a leading Sydney surgeon, who is also a very keen horticulturist, for the following article. In sending it for publication, Dr. Poate writes:—

"The enclosed abstract may be worth while reprinting in your Journal."

"It is an abstract of an address delivered at the Mayo Foundation.

"In view of the present awakening of the public conscience as regards tree destruction, it furnishes some valued information, also it has a practical bearing as regards our own country."

The extract is as follows:—
The Role of the Forests in the Circulation of Water on the Earth's Surface."

[*Abstract of address delivered at the meeting of The Mayo Foundation Chapter of Sigma Xi, Rochester, Minnesota, Friday, March 22, 1935.]

Raphael Zon, Director, Lake States Forest Experiment Station, Forest Service, U.S. Dept. of Agriculture: The part which forests play in the circulation of water on the earth's surface is not yet fully understood. There are many meteorologists and engineers who deny altogether the effect of forests on the amount and distribution of rainfall. The old theory that the source of all our precipitation over the continent is evaporation from the surfaces of our oceans is still prevalent. According to this theory, the vapor from the oceans is carried by the wind to the continent, there condensed in the form of rain or snow, and later returned through rivers back to the ocean. The circulation of water on the earth's surface was thus considered as going on in a somewhat horizontal direction between the ocean and the land.

Bruckner's investigations on the circulation of water in the atmosphere dealt a serious blow to this theory, and threw in bold relief the evaporation from the earth's surface itself as the most important source of our precipitation. According to his calculations, the oceans contribute only two-ninths of the entire precipitation that takes place over the land areas draining toward the oceans; seven-ninths of the precipitation over the earth is derived from evaporation from the land itself.

If evaporation from the land surface is the chief contributor of moisture to the air, it is of interest to know which of the various earth coverings contribute most vapor to the air. Studies of the loss of water from the different earth coverings show that free water surfaces of lakes and streams contribute less vapor to the air than bare, moist soils. Land covered with grass or crops contributes through direct evaporation and through transpiration more vapor to the air than bare, moist soils.

Of all the vegetative coverings, a dense forest contributes most vapor.

Experiments conducted in Germany by Wollny and Ebermeyer, by Henri of France, and by Otozky in Russia, all agree that the ground water is near to the surface in fallow ground, somewhat depressed under agricultural crops, and is lowest under forest cover.

The French aptly call the forests the "oceans of the continent," and compare the vapor given off by them to clouds of exhaust steam thrown into the atmosphere.

THE REASONS FOR THE TREMENDOUS CONSUMPTION of water by forests are clear. To produce one pound of dry wood substance, from 500 to 1,000 pounds of water must pass through the body of the tree. A forest, if it is fairly stocked with trees, produces at least 100 cubic feet of wood per acre per year, including root and branch wood. A cubic foot of coniferous wood weighs on an average 25 pounds, that of hardwood about 40 pounds. An acre of forest, therefore, produces on an average from 2,500 to 4,000 pounds per acre. To produce this amount of wood, from 2,500,000 to 4,000,000 lbs. of water will have to pass through the tree, and be given off into the air. If this water were distributed over an acre of land it would cover it to a height of 12 inches.

Forests, therefore, lying in the path of prevailing winds blowing from oceans to continents

enrich the air

passing over them with vapor and help in carrying this moisture farther into the interior of the continent. We have in the United States a clear example of this influence in the forests of the Coastal Plain and the Southern Appalachian Mountains. The prevailing southerly winds of the summer, on reaching the shores of the southern States, are drained of the vapor derived from the Gulf of Mexico. In further movement north, they would, therefore, become dry winds, if not for the presence of the forests over which they pass. Passing over large stretches of forest, they become alternately enriched with vapor and drained of moisture, and in such relays the moisture is carried into the central and prairie region, making summer the period of greatest rainfall there.

Lowdermilk, in his recent investigation of the influence of the forest upon rainfall, found that the increasing dryness of the interior of China is brought about by the decreased humidity of the air due to deforestation. This, together with erosion following deforestation, has caused serious disturbance to the entire circulation of water in China.

For the same reason the forests of the Scandinavian peninsula must be important in the distribution of moisture over northern Europe.

Whether the forests actually increase rainfall may be a question, but the part which they play in the distribution of rainfall over the land has a good foundation of scientific facts behind it.

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At the Airedale Orchards, Merricks North, Vic.—Left to right: Messrs. Geoffrey W. Brown; H. W. Soothill, W.A.; F. R. Mellor and R. T. Wade, Orchard Supervisor.

APPLE BY-PRODUCTS.

Sweet Cider :: Apple Brandy :: Apple Syrup :: Glazed Apples.

THE POSSIBILITIES of the commercial utilisation of Apple by-products is dealt with in a recent issue of "Country Life in British Columbia."

Experiments are being made in Canada in this connection and the information is of value to growers in Australia and New Zealand.

The article deals with the utilisation of culls, peelings, cores and other residue from canning and dehydrating operations.

Sweet Cider: Research workers have succeeded in producing canned sweet cider (unfermented) of a quality far in advance of any previous product of this nature. It has a fresh flavor and does not possess the caramel taste that has been a fault with other sweet cider. The present fashion now spreading through North America for canned juice products renders this a promising outlet.

Apple Syrup: A ton of fresh Apples contains about 170 pounds of sugar, from which an appetising table syrup can be made. This would compete with corn syrup, cane syrup and maple syrup, and could be used for either table or confectionery purposes.

Glazed Apples: By cutting Apples into small pieces, coloring them and glazing them in heavy syrup, a product useful for baking and confectionery has been produced. It is appetising and nutritious, and has been successfully used for garnishing salads and desserts.

Apple Brandy: An Apple brandy has been prepared suitable either for fortifying local wines or for use as a distilled liquor.

Apple Concentrates: By removing 80 per cent. of the water from Apple juice at low temperatures, the soluble solids are concentrated to a point where they will keep without spoilage. These concentrates may be used in preparing Apple drinks and sweet cider, as a base for fermented cider.

Apple Candy: A delightful Apple candy can be prepared by removing part of the acid from Apple juice, adjusting the pectin content and concentrating the juice to the point where it jellies. This candy has all the health-giving properties of fresh Apples and is attractive in color and flavor.

Much work remains to be done before it can be authoritatively stated that any of the by-products mentioned are suitable for manufacture on a commercial scale, but in each case there seem to be definite possibilities. Economic analyses have yet to be made, but it seems that some at least of them should prove profitable sidelines to canning factories, and an appreciable proportion of what is at present wasted fruit will be absorbed in their manufacture.

NEW NAIL-LESS BOXES.

An Australian Invention.

A new industry is being started in Bootle, Liverpool. It consists of the manufacture of nail-less wooden boxes for packing purposes, and is the outcome of an Australian invention, which has been patented in more than 30 countries. It is the first factory of the kind in the world. Each machine turns out 12 boxes a minute, compared with one box every two minutes from plant which produces nailed boxes. Nails are rendered unnecessary by the hoop-iron which encircles the box being punched in such a way that spikes are driven into the wood. An additional advantage is that the boxes are collapsible, and thus occupy only a fraction of the space of an ordinary box when empty, while there is also an appreciable saving of freight charges, either by weight or measurement, by reason of the fact that wood much thinner than usual can be used.

GUM FROM ORANGES.

Dr. Bergmann, a German-Jewish Professor of the Daniel Sieff Institute in Rehoboth, near Jaffa, Palestine, has found a way of extracting pectin from the white inner skin of Oranges. It is expected that this discovery will solve the problem of the disposal of surplus fruit production.

Previously Potatoes have been used to produce pectin and large quantities have been imported into Palestine for various uses.

U.S.A. APPLE CROP.

35 per cent. Heavier Than Last Year: But the Western States' Production (Washington, Oregon, etc.), is only 7 per cent. Higher than 1934.

The Commonwealth Dept. of Commerce has made available the following report issued by the Canadian Dept. of Agriculture:—

A production of 169,403,000 bushels is indicated for the total Apple crop in U.S.A. Although this is slightly less than the forecast of July 1, the 1935 prospective production is about 40 per cent. larger than the unusually light crop of 1934, and is 5 per cent. above the five-year average production of 1928-32. On the basis of the August 1 reports, the commercial Apple production, or that part of the total crop which probably will be distributed for fresh consumption by rail, boat, truck, local sales, etc., is placed at 98,905,000 bushels. This is but 1 per cent. above the average commercial crop for the five-year period, 1928-1932, but is 35 per cent. larger than the small commercial crop of 1934.

The forecast for the nine Western States exceeds the commercial crop of 1934 by 7 per cent., but is 12 per cent. below the 1928-1932 average.

THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.

President: E. A. Le Page. Vice President: Cr. A. Bunny. Committee: G. Ryan, G. James, C. Baker, L. Lawrence, J. Hawkes, J. Stocks. Arbitration Committee: H. V. Barnett, W. Simmonds, E. A. Le Page, H. Besant, W. D. Barnett.

Secretary: Cr. C. C. A. George, Highett Road, Moorabbin, Vic.

ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

The Tomato Mite.

SYMPTOMS—METHODS OF CONTROL.

W. L. Morgan, B.Sc.Agr. (Assistant Entomologist, N.S.W.).

IN recent years Tomato crops in many parts of the State have been seriously damaged by the Tomato mite. This mite was originally recorded in Queensland in 1917 from Tomatoes by Tryon. The first authentic record of its occurrence in New South Wales was in the spring of 1929 from glass-house crops in the suburbs of Sydney. The following year summer crops grown in the open at Toongabbie, near Parramatta, were heavily infested, though the condition, which was referred to by growers as a rust, appears to have been present in the district for several years prior to 1930.

The Damage Caused.

Since 1929 Tomato mite damage in New South Wales has been recorded from most central and North Coast areas, and inland as far west as Dubbo and Wellington.

The mites are extremely small and only become visible on the foliage under magnification. Consequently, their presence in crops is frequently overlooked, although they may be causing serious damage. Hundreds of these very small, yellow mites may occur to the square inch of foliage. Their presence shortens the productive life of the crop very considerably. They feed on the surface tissues of the stems, the fruit and the foliage, reducing the vigor of the plants and causing shedding of blossoms and stunting of the fruit. Usually severe infestation does not show up before the first two or three trusses of fruit have matured, although occasionally plants are affected earlier and the whole crop is lost.

Symptoms of Attack.

The first sign of infestation is a silverying of the foliage and a drooping and curling of the lower leaves. The stems and leaf stalks also have a smooth appearance due to destruction of the epidermal hairs by the mites. Later the stems and undersurfaces of the leaves assume a dirty brown appearance and the skin of the fruit sometimes has a roughened corky appearance. In the final stages of infestation the leaves wither and die and the plants become defoliated except for fresh, green shoots which appear at the top and base of the plant.

Glass-house Tomatoes in Sydney areas are subject to severe damage from Tomato mite during the spring months August, September and October. Crops grown in the open are affected mainly from January to May, although damage has been recorded from the North Coast during October. Infestation is not usually severe in districts where only spring or autumn crops are grown, but where planting extends over several months of the spring and summer, or of the summer and autumn, the later plantings frequently are attacked severely.

Measures for Control.

Treatment for Tomato mite should not be delayed until the symptoms of damage appear, as by that time the plants will have suffered a severe setback and some loss of crop will result. In localities where the mite frequently occurs, treatment to prevent infestation should be a routine measure. For field crops, at least two

treatments should be made, the first when the fruit commences to ripen and the second a month later.

The cheapest and most effective control is spraying with lime-sulphur, 1 in 100. Where, however, treatment with Bordeaux for disease control is necessary, lime-sulphur should not be used, as the two sprays will react, leaving a dark-brown deposit on the fruit and foliage, and some foliage injury will also occur. If Bordeaux is being used, the plants should be dusted with a mixture of equal parts hydrated lime and flowers of sulphur, or sprayed with wettable sulphur 1 lb. to 12 gallons. Wettable sulphur may be applied alone or with the Bordeaux.

For glass-house Tomatoes, dusting with sulphur is the best form of treatment, the plants being dusted every three of four weeks, commencing when the first blossoms appear.—(N.S.W. Ag. Gazette.)

WATERMELONS.

Watermelons are not as tender subjects to grow as Rock Melons, but nevertheless they will not stand much rough treatment. One of the requisites is a location where the season is long enough to allow the maturity of the crop. They should not be grown in the same piece of ground two years in succession. The soil best suited to Watermelons is a light sandy soil. The hills should be six feet apart. Two or three shovelfuls of well-rotted manure should be added to each hill, and well mixed with the soil before sowing the seeds. Five or six seeds should be sown on each hill.

Once the vines start to run, avoid moving or turning them; it is a good plan to use small wooden pegs to keep the vines from being moved by the wind, and the most sunny position possible should be given them. Preserving or Pie Melons are easily grown, and almost any soil suits them. These are enormous croppers and the fruit is very valuable for making preserves, and a good cheap jam can be made from them, hence one or two plants are of great value in the garden for augmenting the supply of jam for household use.

GRADING OF POTATOES.

Potato growers and merchants are seeking the more rigid enforcement of Potato grading regulations. The importance of exporting only Potatoes of the highest quality is emphasised. Stricter inspection, either at ship's side or at country depots, is requested.



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PEAS AND BEANS MARKED WITH INCORRECT WEIGHT.

The Superintendent of Horticulture (Mr. J. M. Ward) said recently that Peas and Beans are arriving on the Melbourne market with the weight on packages shown as 50 lb., and, on being weighed, are found to be considerably less.

The regulations provide that the weight must be described on the package itself or on any ticket or label affixed to the package, and that the weight of the Peas or Beans contained in any package must be more than 95 per cent. of the weight described. Therefore, growers are warned that they must comply with the foregoing regulations, otherwise proceedings will be taken against them.

No further warning will be issued.

TOMATO VARIETIES FROM U.S.A.

Now Growing at Bacchus Marsh, Vic.

THREE TOMATO VARIETIES, specially suited for canning have been developed in U.S.A. Seeds have been made available to Mr. Colin Todd, a market gardener at Bacchus Marsh, Vic.

The Tomatoes are for Messrs. H. J. Heinz Co. Pty. Ltd., the well-known food manufacturers, a representative of whom has said that the average Tomato that he has seen growing in Australia does not come up to the standard required for high-grade processing.

Mr. Todd is now growing the varieties Heinz 57 Special, Heinz Special, and Heinz Harlesden. If the crop is up to the standard hoped for it is considered certain the Heinz Co. will absorb the whole of the Tomato production which may develop at Bacchus Marsh.

PORTLAND SHOW.

Special Class for Tomatoes.

The Portland (Vic.) district is noted, among other things, for its Apples and Tomatoes: the Tomatoes come in late in the season, and usually secure a good market.

The annual Portland Show will be held on February 20 and 21, 1936, and an interesting programme has been drawn up.

The schedule contains sections for cattle, sheep, dogs, poultry, farm and dairy produce, fruit, vegetables, cookery, with a special section for Tomatoes.

It is understood that this is the first occasion on which Tomatoes have been so prominently displayed in a show schedule. Included are—Collection of Tomatoes, Four general purpose varieties, 2 varieties dessert or table; best dish 6 Tomatoes, both general and dessert; best dish 6 each Pale Top, Large Red, Improved Large Red and Sensation; best packed and graded case for Melbourne market; best packed and graded half-case for interstate market; best one acre Tomatoes, and best set $\frac{1}{4}$ acre staked Tomatoes within 15 miles of Portland. Copies of the schedules and entry forms are obtainable from the secretary, Mr. W. R. Egan, 49 Percy-street, Portland.

POLL OF ONION GROWERS.

The chief electoral officer for Victoria (Mr. W. L. Rowe) has been appointed returning officer for the poll of Onion growers on the question of establishing a marketing board, as provided for in the Marketing of Primary Products Act. A roll of growers has been prepared, and sent to post offices in Onion-growing districts. Qualified growers whose names do not appear should apply for enrolment by January 10. Ballot papers will be distributed by January 17, and they should be returned not later than February 3.

NEW METHOD OF STORING TOMATOES.

Iodised Shavings Reduce Storage Rots.

Recent tests in England show that by storing Tomatoes in iodised shavings mould and fungus troubles were reduced to a minimum.

Little drops of water, little grains of sand,
Make the mighty ocean and the ditto land;
But why these drops of water and little grains of sand
Are always served with spinach, we can not understand.

EARLY BEARING GRAPE VINES.

New Method of Production in Switzerland.

Beautiful Clusters of Fruit the First Year After Planting.

BY COURTESY of Mr. H. Barnes, director of Fruit Culture, Queensland Department of Agriculture, the following translation is to hand from Der Landfreund (Berne, Switzerland), May 10, 1935.

THE PRODUCTION OF EARLY-BEARING GRAPE VINES.

Normally several years are required before a grape vine produces its first fruit. We give here below a procedure by which vines can be raised that will have produced beautiful clusters by the first year after planting.

Early in the year, before the sap begins to mount, select a suitable slender vine without side shoots. Stick it through a hole bored in the bottom of an old pot or such-like, and fix the vessel on a stand so that the vine is subject to no shocks, and can be trained over the trellis in the usual way. Fill up the pot with compost or good calcareous garden soil, and keep the vine quite moist by regular watering. The vine then strikes root abundantly inside the pot in the course of the summer and autumn. In the winter make sure of a frost-proof covering.

At next spring the vine can be cut off at the pot, and the now rooted and vigorous plant can be transferred to the place already selected (and well prepared) for it. The vine will bloom at the accustomed time and produce fruit.

Export & Commercial News

Fruit News from London

Sanctions Will Help Australian Tomatoes
Consignment of Special Italian Seed Sent to Adelaide
Openings for Lemons and Lemon Juice
Australian Apple Sales on the Continent

By L. Bruce Purton (Special Representative in London of "The Fruit World").

LONDON, November 30. SANCTIONS AGAINST ITALY will benefit Australian Lemon and Tomato growers to an appreciable extent. Italy has for many years exported large quantities of Lemons and canned Tomatoes to Britain, and now that Italian supplies have been cut off, some other country or countries will have to supply the demand.

In the first ten months of this year, 774,969 cwt. of Lemons (valued at £647,838), and 267,326 cwt. of canned Tomatoes (valued at £286,143) were imported into Britain from Italy.

I heard that Mr. C. F. G. McCann (Agent-General and Trade Commissioner for South Australia) was keenly interested in the position created by sanctions as affecting Lemons and Tomatoes, and I have just come away from a long interview with him.

Mr. McCann said that already large shipments of Lemons had arrived in Britain from South Australia and Victoria, and had been very favorably commented on in trade circles. Several merchants had told him that they had found the Australian Lemons superior to those they had been accustomed to receive from Italian suppliers. The prices obtained have been so satisfactory that Mr. McCann forecasts that it would mean the opening up of a healthy export industry. He said there had also been enquiries from two large London organisations for Lemon juice. These two organisations had previously obtained all their requirements from Italy.

A Special Tomato for Canning.
Mr. McCann pointed out that the matter of stepping into the canned Tomato trade presented many more difficulties than was the case with either fresh Lemons or Lemon juice. In the first place, he said, the particular variety of Tomato most suitable for canning, was not grown to any extent in Australia at present.

At the first mention of sanctions, Mr. McCann was quick to realise the opportunity that awaited Australia to drive the thin end of the wedge into the canned Tomato business, as far as the British market was concerned. To that end he has already purchased from Italian sources a large quantity of seed of the special variety of Tomato essential for the most successful results. This seed has been sent to the Department of Agriculture at Adelaide, for distribution among the growers of South Australia.

Traveller in Apples.
Mr. McCann has been associated with the produce trade since 1898, which accounts for his wide knowledge of many branches of the food industry. He is indeed a very versatile personality. He has just returned from a trip to Gothenburg, Helsingfors, Rotterdam, Brussels and Hamburg. His mission was to sell Australian Apples. The trip was a great success. He told me that orders were placed for 100,000 cases,

with negotiations proceeding for further quantities. Mr. McCann makes periodical trips to the Continent, and in the course of a year is directly responsible for a tremendous amount of South Australian produce being absorbed on this side of the world.

I asked him what would happen if Australian currency reverted to sterling values—whether it would result in a serious loss of trade. He said he did not think so, adding with a smile: "These things always right themselves."

Some of his friends describe Mr. McCann as "South Australia's Commercial Traveller Number One." He undoubtedly deserves the title.

Jamaica Commission on Bananas.
It is announced that a special commission is to investigate the Banana industry of Jamaica. Mr. W. Gavin, a well-known public figure in London has been appointed chairman. He is probably known to many Australians in the fruit trades. He will leave England on December 12, and the work of the commission will occupy some three or four months. Mr. Gavin is a member of the staff of Imperial Chemical Industries and of the Potato Marketing Board. The report of the commission should prove very interesting to Australian growers of Bananas, but it will not be available until about next October.

Potato Prices Soar.

Potato prices here in the next few months may reach the highest level since the war. This is largely due to the policy adopted by the Potato Marketing Board. While tons of Potatoes in the ground clamps are in danger of becoming useless, the Board is still restricting sales to Potatoes above a certain size.

Early rain, followed by several months of drought, led to the lightest early crop in many parts of the country. The late crop in many districts is still unlifted, owing to heavy rains, and in Scotland alone it is estimated that 185,000 tons of Potatoes are still in the ground.

This is about one-sixth of the crop available for home consumption, and, since much of it is likely to be lost, a shortage is certain to be felt. Already there is a hardening of prices, and unless the Board relaxes its regulations, it is feared that it will not be very long before famine prices will be reached.

British-Grown Walnuts.

Large quantities of Walnuts are at present imported into Great Britain, but the experiments which are being carried out at the East Malling Research Station will help British growers to compete successfully with those of the Continent. More than 6,000 tons of Walnuts, valued at £366,000 were imported into this country last year.

Almost all the Walnut trees in England are seedlings which vary greatly in quality and reach the bearing stage very slowly. A move has now been made to plant grafted trees of suitable varieties. A number of

Dinner to Victorian Orchardists and Exporters

Presentation of Colombie Cup and Certificates

A representative gathering of Victorian orchardists, exporters, and Government officials were present at a dinner tendered by Mr. H. G. Colombie on December 20, 1935.

The object of the gathering was to present the Challenge Cup and certificates to the winners of the Colombie Apple Export Competition for the 1935 season. Amongst those present were—Senator Brennan (Assistant Minister for Commerce), Hon. L. Bussau, M.L.A. (Minister for Transport), G. D. Young (chairman O.S.R.A.), M. A. Remfry (General Superintendent of Transport, Victorian Railways), Federal and State departmental officers.

Owing to illness, Mr. H. G. Colombie was not able to preside, and the chair was occupied by Mr. A. S. Harrison.

The toast of "The King" was loyally honored, on the motion of the chairman.

Mr. J. B. Mills (president of the Australian Apple and Pear Export Council) proposed the toast of the "Federal Parliament." This was responded to by the Federal Minister of Commerce, Senator Brennan. He referred to the importance of the Apple and Pear export trade. At present there was a general tendency towards higher prices, and he hoped that the Apple industry would prosper as a result. The Federal Government had endeavoured to do the fair thing by primary industries, but he hoped the day was approaching when the subsidising of primary industries would become unnecessary.

The export trade was the means of drawing other countries to us, and created friendship. Production is important, but the duty of the specialist or the exporter was also important, and they played a definite part in the collection of wealth.

In proposing the toast of "State Parliament," Mr. G. W. Brown, President of the Victorian Fruit Marketing Association, stated that the industry looked to the Government to assist in the production of good fruit, which was always saleable. Over-production, in his opinion, was in poor quality fruit only, and it was in this respect that the State Parliament and its officials could help the industry.

Hon. L. Bussau, M.L.A. (Minister for Transport) responded on behalf

varieties of proved worth have been determined by the experiments at East Malling.

English Fruit Shortage.

Two very heavy frosts were experienced in England last May, and the effect of these frosts is likely to be reflected in a shortage of good home-grown fruit, and a consequent increase in price.

Apples and Pears are below the average, and Gooseberries, Cherries, Currants and Plums have all been affected. Peaches and other wall fruit, however, report an average crop.

The late spring, which kept back the precocious growth that so often spells disaster, created the worst conditions for the abnormal frosts in mid-May. One Apple grower in East Sussex estimates that the night of May 16 cost him £3,500 in about six hours.

of the Minister of Agriculture (Hon. E. J. Hogan, M.L.A.), who was not able to be present. He stressed the need for creating home markets, the same as enjoyed by manufacturers and others. A home consumption price for fruit was important, and he hoped that growers would avail themselves of legislation provided for this purpose. He considered that as long as the tariff wall was maintained by the Commonwealth the primary producer would want assistance, and the same benefits as those enjoyed by the manufacturers, the workers and other interests. He hoped that Apple growers would avail themselves of the legislation which has been passed for their benefit, and that they would organise also to protect their oversea markets.

The toast of "Our Guests," coupled with the names of Mr. G. D. Young, chairman O.S.R.A., and Mr. M. A. Remfry, General Superintendent of Transport, Victorian Railways, was proposed by Mr. Harrison, in the absence of Mr. Colombie. The proposer referred to the important part the shipping companies and the railways paid in the transport of fruit.

Mr. G. D. Young, in responding, stated that it was a pleasure to them to be able to co-operate with growers and exporters. The shipping companies had carried out much research work in regard to the carriage of fruit and other products, and in this respect much good work had been accomplished, to the mutual advantage of all concerned.

Mr. Remfry also responded, and referred to the organisation which was necessary to transport fruit for export. One million cases of fresh fruit were handled by the railways, in addition to processed and dried fruits. The Pear industry had shown considerable extension in latter years, and there was every indication of this

AGREEMENT WITH N.Z.

At the recent conference with the Executive of the Australian Apple and Pear Export Council and the delegates from the N.Z. Fruit Export Control Board, an agreement was reached as to mutual quantities of Apples to be exported to the United Kingdom during the months of March, April, May and June. The agreement was subject to confirmation.

As the N.Z. Export Control Board has now cabled its acceptance of the agreement, the details have been made available as follows:

Total joint quantity in quota period, 4,590,000.

From

Australia, 76½% . . . 3,511,350

N. Zealand, 23½% . . . 1,078,650

Total 4,590,000

As stated, these totals do not include February shipments, nor shipments to the Continent.

These figures apply to Apples only. Pears are not included in the quota in any way.

growing to the same extent as the Apple industry.

Presentation of Cup and Certificates to Winners.

The presentations were made by the Hon. L. Bussau, Minister for Transport. The "Colombie" Cup and first prize certificate were presented to Mr. J. A. Catto, of Rheola, Victoria; second prize to Mr. G. H. Anderson, representing Bacchus Marsh Packing Company, and third prize to Mr. J. H. Lang, representing Harcourt Fruit Supply Society Ltd. Each recipient suitably responded.

Mr. J. M. Ward, Superintendent of Horticulture, reported briefly on the 1935 export competition. He said the object of the competition was to improve the general preparation of our fruit. Every grower who ships a certain number of cases automatically becomes eligible. The judging was carried out by departmental officers, who compared notes over a period. The three competitors referred to above had put up very creditable packs. Speaking generally, he considered there had been a great improvement in packing generally. Mr. Catto received 89 points out of a possible 100; Bacchus Marsh Packing Co. 86 and Harcourt Fruit Supply 84.

Other individual growers and companies who had put up creditable packs included Mr. J. Cowan (Bacchus Marsh), Mr. A. Andrews, Mr. W. Mercer (Tally Ho), Mr. J. J. Ahern (Pakenham), Mr. T. J. Peart (Bairnsdale), Somerville Packing Co., Tyabb Packing Co. and Harcourt Co-operative Co. Ltd.

Mr. Catto secured 18 out of 20 points for quality and freedom from disease. Being an individual packer, he had an advantage over the co-operative packing companies, as he was able to cull out fruit affected with any blemishes whatsoever. The second and third prize winners secured 16 points out of 20. For uniformity of color the points were as follows—Mr. Catto 9 out of 10, Bacchus Marsh Packing Co. 8, and Harcourt Fruit Supply 7.

In proposing the toast of the "Departmental Officers," Mr. A. E. Hocking stated that he considered scientific action by Governments was more valuable to primary industries than legislative action. Research work was necessary to save growers the heavy costs in the control of insect pests and fungus diseases. He considered that two million pounds per annum was lost through preventable diseases. The research farm established by



Decorated Car which secured first prize at Devonport Gymkhana, Tasmania. Entered by employees of Clements & Marshall Pty. Ltd.

the Government should be allowed to function and growers should be educated in regard to the problems that affect their industry.

Reference was made, with regret, to the fact that Mr. E. Meeking,

Senior Fruit Inspector, was retiring this year. He had given valuable service to the industry, and his loss at a time like the present would be considerable.

Mr. Meeking, who responded in the absence of the Director of Agriculture, thanked the mover of the toast for his kindly reference to himself personally. His Department had endeavored to co-operate in every possible way with growers and exporters. He considered in the last few years the industry had shown progress in regard to organisation, and in their organisation — the V.F.M.A. — Victorian growers could do much to further benefit the industry.

This successful function was brought to a close after a vote of thanks had been carried with acclamation to the chairman (Mr. A. S. Harrison).

AUSTRALIAN AND N.Z. FRUIT EXPORT.

A VALUABLE and comprehensive report of the 1935 Apple and Pear export season from Australia and N.Z. has been compiled by F. W. Moore & Co. Ltd., London. We are indebted to Messrs. H. Jones & Co. Ltd., Hobart, for a copy of this report, which would be perused with interest by all growers.

Some of the headings in this valued report are as follows:—The benefits of color grading; Limitation to 4,500,000 cases; Continuance of limitation probable; The trend of prices; The year's weather; A reduced English crop; Quality of Australasian shipments; Tasmania's big improvement; Satisfactory condition of cargoes; The size of Apples; Trade with Europe; A benefit from Sweden; Looking forward.

Pears.

Good Argentine shipments; Good Tasmanian prices; Competition from other countries; A New Zealand view.

Shippers of fruit throughout Australia and New Zealand.

The good work of the Australian Apple and Pear Council in assisting to eliminate "plain" grade, institute color grading, reduction of varieties and the agreement between Australia and New Zealand as regards quantities, is referred to with appreciation.

Statistics are given covering the whole of the season, giving the names of the boats, the quantities carried and the ports of discharge.

The report is being published in full in the 1936 "Fruit World Annual" now in course of preparation.



F. Chilton, Fruit Commission Agent, Established 1894.
Licensed Under Farm Produce Agents' Act.
Highest Market Prices, Prompt Returns, Reliable Advice.
Registered Address for Telegrams and Cables—
"Chiltons."
City Fruit Markets, Sydney.

Telephone MA 3846. Established 1900.

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Licensed Farm Produce Agents.
8 City Fruit Markets, Sydney.
Our Motto—Quick Sales and Prompt Settlements.
Forwarding Numbers:
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SHIPPING NO. 281.
Phones: MA 2612 and X2317.

GROWERS!—Consign your Fruit to—

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Established 1882.
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Proprietor: STANLEY H. POGSON.
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PROMPT RETURNS. SHIPPING NOS.—
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For Satisfactory Results, Send Your Fruit to

F. H. G. Rogers

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Municipal Markets, Sydney.

Shipping No. 83. Established 1900.

Growers Obtain Top Prices by Consigning to:

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Bankers: Bank of N.S.W., Haymarket.

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Licensed Farm Produce Agents,

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Consignments of Fruit, Tomatoes, and Other Produce Received for Sale.

Cases Sent on Application.

Cash and Account Sales Rendered Weekly.

Associated Growers' Selling Agency

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BRUCE R. SMITH, Proprietor.

Reliable Service, Prompt Advice and Returns.

Highest Ruling Rates.

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FOR SERVICE AND SATISFACTION

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J. J. MASON,

City Markets, Sydney, N.S.W.

Fruit Agent, Licensed Under Farm Produce Agents' Act, 1926. Bankers: Bank of N.S.W., Haymarket.

Shipping Nos.—Vic., N.S.W., Queensland, 133;

Tasmania, 185.

Phone: MA 2605.

Fruit and Vegetable Distribution in Queensland.

THE Committee of Direction of Fruit Marketing has issued a wall sheet giving the following particulars:

A scheme involving the co-operation of the Railway Department, the Department of Agriculture, the Committee of Direction of Fruit Marketing, and consumers of fruit and green vegetables in country districts has been put into operation.

Consumers of fruit and vegetables are invited to take full advantage of the opportunity to secure supplies direct at attractive prices.

Medical authorities have expressed the opinion that from a health point of view, an increased consumption of fruit and green vegetables in country districts is desirable.

Orders for fruit and vegetables, which must be accompanied by cash to cover the amount of the order, will be accepted by the Station Master or by any local committee functioning under the scheme.

Quotations, showing prices of the different kinds of fruit and green vegetables in season delivered to purchasers' railway station, will be displayed hereunder from time to time.

Price List.

Half Bushel Cases—Prices Include Freight.

Available Now:

Vegetables—Mixed in season, 5/-.

Bananas—

A.—Approximately 10 doz. in case, 4/6.

B.—Approximately 8 dozen in case, 5/6.

Tomatoes—1st quality, 6/6.

Plums—1st quality (see footnote), 7/6

Peaches—1st quality (see footnote).

7/6.

Apricots—1st quality (until December 31 only), 11/6. (See footnote.)

Available for despatch on and after December 23, 1935.

Apples—

A.—Cooking (medium to large size), 4/9.

B.—Cooking (small size), 4/6.

Available on and after January 13, 1936.

C.—Eating (medium to large size), 5/3.

D.—Eating and cooking mixed (medium to large size), 5/8.

E.—Eating (small size), 4/6.

F.—Eating and cooking mixed (small size), 4/6.

Pineapples—

6 medium to 10 small, 3/3.

Available on and after February 17, 1936.

Apples—

G.—Granny Smiths, 5/6.

Please Note.—The carrying qualities of Plums, Peaches and Apricots are most variable, and whilst we give to intending purchasers our assurance that the selection of these varieties will be strict and careful, we wish the buying public to realise that there is a distinct possibility of these varieties not standing the journey. This risk is accentuated if the journey is over 700 miles.

We are most anxious to give you as big a range of fruits as possible, but desire you to be fully conversant with the risk attached to the varieties mentioned on which we will be unable to meet claims for loss.

CLEVER?

Policeman: "Miss, you are doing sixty miles an hour!"

She: "Oh, isn't that splendid! I only learnt to drive yesterday."

International Co-operation.

£120 in Prizes for Essay.

"How Can Youth Develop Co-operative and Harmonious Relations Among the Races of the World?"

THE NEW HISTORY SOCIETY is offering three prizes to the entire youth, male and female, up to the age of 30 years, of Australia, Africa, Canada, Alaska, New Foundland and New Zealand, for the best three papers of not more than 2,000 words on the subject of "How Can Youth Develop Co-operative and Harmonious Relations Among the Races of the World?" 1st prize, £60; 2nd prize, £40; 3rd prize, £20.

The New History Society is seeking a scientific and ethical plan for the solution of the race problem. A plan having the potentiality of engendering the New Educational System of inculcating inter-racial consideration and amity and of teaching the inhabitants of the world a way of getting along together usefully and happily.

The competition closes on April 1, 1936. The date April 1, 1936 indicates the last date on which papers may be posted in the continents and countries included in this competition. The manuscript must be original, typewritten in duplicate, double spaced, only one side of the paper being used, with the name and address of the author appearing on title page and on right upper corner of each succeeding page.

This competition is sponsored by the New History Society, 132 East 65th Street, New York, N.Y., U.S.A.

Any person desiring to enter should communicate with the Editor, "Fruit World," Box 1944 G.P.O., Melbourne, at once, as it is necessary to fill in a questionnaire, particulars of which are available on request.

BULK LOADING OF FRUIT.

Activity of N.S.W. Chamber of Fruit and Vegetable Industries.

The New South Wales Chamber of Fruit and Vegetable Industries has inaugurated a bulk-loading system which will operate between Albury and Sydney and other N.S.W. and Queensland centres. It is stated that the cheapest rate of freight and the highest standard of efficiency will be provided by this service.

: : :

At a recent meeting of representatives of Victorian fruitgrowers, Harcourt delegates spoke in terms of appreciation of the bulk loading facilities provided by the N.S.W. Chamber of Fruit and Vegetable industries—a substantial saving in freight having resulted.

FRUIT PUBLICITY IN QUEENSLAND.

The Editor acknowledges with pleasure receipt of a handsome poster issued by the C.O.D. of Fruit Marketing, Brisbane, showing Apples, Pears, Peaches, Plums and Grapes. The poster is three feet three inches long and two feet six inches wide, and it is one of a series issued by the C.O.D. to assist in fruit publicity.

These posters are displayed by arrangement on railway stations, hoardings and in fruiterers' shops.

The C.O.D. has also issued a sale sheet describing their system of fruit and vegetable distribution to country districts.

WALNUTS IN CALIFORNIA.

The area under Walnuts in California is 139,005 acres, representing an investment of £27,000,000.

U.S.A. APPLE CROP PROSPECTS.

Total production of Apples, as indicated by the October 1 condition shows a possible total of 168,209,000 bushels for 1935, compared with 120,670,000 bushels produced in 1934, and a five-year average (1928-1932) production of 161,333,000 bushels. Commercial production, or that part of the total crop which will be distributed for fresh consumption, is now forecast at 96,903,000 bushels, slightly below the five-year average commercial production. Production in the Pacific Northwest is expected to be as large as the 1934 crop, but the proportion of large sizes probably will be lower.

U.S.A. Pear Crop Prospects.

The October 1 condition of 59.5 per cent. indicates a total production of 21,425,000 bushels. This is 7 per cent. below the five-year (1928-1932) average production of 23,146,000 bushels, and is 9 per cent. less than the 1934 production of 23,490,000 bushels.

FRUIT CROPS IN CANADA.

The following figures re fruit production in Canada were issued by the Dominion Bureau of Statistics. Apples, 3,891,000 barrels in 1934, as compared with estimate of 4,069,400 for 1935, and Pears 344,000 bushels in 1934, as compared with an estimate of 312,000 for 1935.

SECURE YOUR

FRUIT CASES

... from a reliable manufacturer. Write for further particulars and prices.

R. W. HALL & BLOOM PTY. LTD., Case Manufacturers, Whitehorse Rd., Mitcham, Vic.

Do not run any Financial Risk with your Fruit but Consign it to

HEDLEY GEEVES PTY. LIMITED

Telegraphic Address:
"Apples, Brisbane."

(Hedley Geeves, Managing Director)

Registered Shipping No. 6.

FRUIT EXCHANGE

SELECTED AGENTS FOR:

Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd. Harcourt Fruit Supply Co. Ltd. Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.

New South Wales: Griffith Producers' Co-op. Co. Ltd. Batlow Packing House Co-op. Soc. Ltd.

BRISBANE

SPECIAL NOTICE TO FRUITGROWERS

In response to numerous requests from growers for information as to who are members of the

Wholesale Fruit Merchants' Association of Victoria
the following list is given. All are members of the above Association, and are registered firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESES.

T. STOTT & SONS (26).

H. L. E. LOVETT & CO. (23).

A. E. PITTS (14).

J. DAVIS PTY. LTD. (8).

W. S. TONG (31).

SILK BROS. PTY. LTD. (24-25).

J. G. MUMFORD (35).

GOLDEN VALLEY FRUIT CO. PTY. LTD. (15).

J. W. ROSS (13).

H. M. WADE & CO. (21).

DAVID SMITH PTY. LTD. (3).

SILBERT, SHARP & DAVIES PTY. LTD. (17).

W. A. WATKINS (5).

P. A. PATRIKEOS (36).

G. WOOLF & SONS (29-30).

F. CAVE & CO. PTY. LTD. (9).

R. CORNISH & SONS (5).

J. HYMAN & SON (51).

HERBERT WILSON PTY. LTD. (10).

FRANK BOOTH & SONS PTY. LTD. (16).

GEO. LISTER PTY. LTD. (12).

TIM YOUNG & CO. PTY. LTD. (18).

F. W. VEAR PTY. LTD. (28).

YEE HOP LOONG & CO. (32).

Correspondence is invited by the Association.

Office : 21 Wholesale Fruit Market,
Queen Street, Melbourne. Phone F 4866.

"The Romance of London."

We recently received from Capt. A. W. Pearse, Sydney, a very interesting article entitled "The Romance of London." The history of this great city is traced from before the Roman invasion. Writing in 61 A.D., the Roman historian, Tacitus, described London as "crowded with traders and a great centre of commerce." By the end of the 18th century there was great congestion owing to insufficiency of moorings and warehouses.

The first docks were opened in 1802. Competition from dock proprietors led to inefficiency and dissatisfaction: then after a Royal Commission had taken evidence, the Port of London Act was passed in 1908. This Act created the Port of London Authority to administer all docks as one unit.

The Authority's revenue is derived solely from dues and charges for services rendered. The larger the business the lower become the rates.

Three times in the last eight years charges have been reduced, amounting to over £1,000,000 per annum, in the interests of shippers of produce.

The port and warehouse facilities are now on a gigantic scale and are efficiently and economically administered.

REPORTED FROST DAMAGE.

Apples May be Short in 1936.

The Canadian Trade Commissioner in London reported on November 8 by cable, that the British Apple market was disturbed because of reports from U.S.A. indicating heavy losses from freezing injury.... At the present rate, Apples may be scarce in the New Year.

RIDLEY & HOULDING**Covent Garden Market, LONDON**

Specialists in Australian Fruit. Solicit consignments of Apples, Pears, Etc. Our record of over 30 years' standing in the handling of Australian fruit, with satisfactory results, is a recommendation for growers to ship their fruit to our house.

REPRESENTATIVES—

International Fruit & Mercantile Company Ltd., Melb., Vic., Australia; Pitts & Lehman, 129 Pitt St., Sydney, N.S.W.; and A. J. Walshe & Co., Hobart, Tasmania.

SUPPORT CO-OPERATION

By Consigning your
FRUIT to the

Producers' Distributing Society Ltd.

(Late Coastal Farmers' Co-operative Society Ltd.)

Agents for

"BLACK LEAF 40"
and

All Orchard Requirements.

MELBOURNE SYDNEY
NEWCASTLE DEVONPORT

MARKET NOTES AND PRICES**NEW SOUTH WALES.**

Sydney (30/12/35). — Mr. L. T. Pearce, Market Representative, Fruit-growers' Federation of N.S.W., reports as follows:

Apples: N.S.W. new season, Allsop's Seedling, Mobbs and Lord Nel-

son, 4/- to 8/-; Carrington, 6/- to 10/-; Grav., 7/- to 12/-; others, 4/- to 8/-; plain grade lower. 1935 season Demos. and Yates to 12/-; G. Smith, 5/- to 10/- bushel.

Pears: Local—Williams and Clapp's Favorite, 5/- to 10/-.

Apricots: Inland, 4/6 to 7/-, few to

8/- half bushel, ripe from 2/-. Bananas: N.S.W. and Q'land, 1/- to 10/-, few to 12/-; Fiji, 8/- to 18/- trop. case.

Arrivals for the past week totalled 18,475 cases, of which N.S.W. supplied 17,468 cases and Queensland 257, and Fiji (on the 28th inst.) 750



Cable Address: DAVIS, MELBOURNE. Code: "ABC," 4th and 5th Editions. Box, G.P.O. 148B.

J. DAVIS PTY. LTD., Fruit Merchants**8 WHOLESALE FRUIT MARKET**

Consignments solicited.
Telephone, F 3232.

One Trial Invited.
Bankers: The National Bank of Australasia, 271 Collins Street, Melbourne.

Best Prices obtained.
Prompt Advice and Payment.

Telegraphic Address: "Listeria," Melbourne.
Codes: Bentley's A.B.C., 5th Edition.

Postal Address: G.P.O. Box 555D. Telephone: F 6341.
Private: Windsor 4535.

GEO. LISTER PTY. LTD. (Managing Director: J. R. VAIL)

Selected Agents for all Growers' Organisations Throughout the Commonwealth.
Wholesale Fruit Merchants — Licensed Commission Agents — Importers and Exporters.

NO. 12 WHOLESALE FRUIT MARKET, MELBOURNE.

Having carried on a successful business for over half a century, our name stands high in the Wholesale Fruit Trade of Australia. Our spacious premises at Melbourne Wholesale Fruit Market are admirably adapted for the conduct of our large business, and growers are assured that our best efforts are always at their disposal.

Bankers: Commercial Banking Co. of Sydney, Melbourne Branch. Fidelity Bond Guaranteed by I.O.A. Insurance Co.

Silbert, Sharp & Davies
Pty. Ltd.

FRUIT MERCHANTS

17 Wholesale Fruit Market
Phone: F 2287.

REGULAR SUPPLIES OF
GOOD FRUIT, WELL PACKED
AND GRADED,
BRING THE BEST RESULTS.

A. MILLIS & SONS

34 Wholesale Fruit Market

EXPORTERS AND IMPORTERS
Specialty—Prompt Returns. Cheques
every Wednesday. Phone: F 1862

J. W. ROSS

13 Wholesale Fruit Market

WHOLESALE FRUIT MERCHANT
Prompt Returns and Sales Notes Daily.

Tel., F 2426.

G. WOOLF

29-30 Wholesale Fruit Market

WHOLESALE FRUIT MERCHANT
& COMMISSION AGENT

Telephone: F 5550.

BELL, BANSON Pty. Ltd.

Wholesale Fruit Merchants,
20 Wholesale Fruit Market, Melb.
CONSIGNMENTS OF FRUIT AND
VEGETABLES SOLICITED.
Tel.: F 1023; Private: JW 2528.
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Market Branch.

T. STOTT & SONS**26 Wholesale Fruit Market, Melbourne,**

And at VICTORIA MARKETS.

COUNTRY AND INTERSTATE ORDER TRADE SUPPLIED.

PROMPT SETTLEMENTS. CONSIGNMENTS SOLICITED.

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PTY. LTD.

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Exporters of Fresh Fruit.

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No. 4 WHOLESALE FRUIT MARKET, MELBOURNE

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References—E.S. & A. Bank, 225 Swanston St., Melbourne.

Telegraphic Address: GOOD PRICES ASSURED

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Wholesale Fruit and Produce
Commission Agents,
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Established 1893.

Member of Wholesale Fruit
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**14 WHOLESALE FRUIT
MARKET, MELBOURNE.**

Consignments Solicited from all
States.

Growers Will Receive Top Market
Value and Prompt Returns.

Fidelity Bond Guarantee for £1,000

Pea and Bean Stands,

11 and 12 Victoria Market.

Reference—E.S. & A. Bank,
Elizabeth St. Branch, Melbourne.

Phone: F 5035.

**Tim Young & Co.
Pty. Ltd.****WHOLESALE FRUIT MERCHANTS**

18 Wholesale Fruit Market

Growers can be assured of receiving
the very best service and prompt
returns.

Cable Address "TIYOUNG"

A.B.C. Code, 5th Edition.
Box 28a, G.P.O., Melbourne.

TELEPHONE, F 4321

Bankers:
E.S. & A. Bank Ltd.,
Melbourne—225 Swanston Street.

Stencil or Labels on application.

H. & S. FRANKEL

(Established 35 Years)

**NO. 44 WHOLESALE FRUIT
MARKET, MELBOURNE.**

Growers in all States are invited to
send consignments. Highest market
rates and prompt settlements.

Telephone: Store F 4874;

Bankers, Private F 1555 & F 8711.

Commonwealth Bank of Australia.

£500 Fidelity Bond Guarantee.

cases. In addition, between 500 and 600 bunches came from Fiji. This market has again collapsed, fruit being under offer at almost any price.

Cherries: N.S.W., 3/- to 4/6, few special higher, inferior lower, quarter bushel.

Citrus Fruits.—Grapefruit: N.S.W. local special, 14/-; N.S.W. inland special, 15/-; U.S.A., Cal., 30/- per 1-1/3rd bushel case. Lemons: Local, 4/- to 10/-; inland, 5/- to 12/- bush.; plain grade, 3/- to 6/-, special cured to 14/-, Vic. 10/- to 14/-. Vals., local, 3/- to 8/-, few 9/-, inland 5/- to 9/-, few 10/-.

Grenadilla: Fiji, 20/- to 25/- trop. case.

Grapes: U.S.A. Emperor 32/- per net 34 lbs.

Gooseberries: N.S.W., 3/6 to 5/-, few higher 1/2 bushel.

Figs: 6/- to 8/- 1/2 bushel.

Mangoes: Q'land, choice, 10/- to 12/- per bushel case.

Nectarines: N.S.W. 5/- to 8/-, inferior lower per half case.

Plums: 1/- to 3/-, few 5/- and higher half bushel case. Small and ripe lower. Santa Rosa have been in over supply, and some wastage is occurring. A few Angelina have appeared from the Area, and have sold at 4/- to 6/-.

Peaches: Local 1/6 to 5/-, few selected packs and varieties higher. Inland 2/- to 5/- half bushel case.

Papaws: Q'land, 10/- to 15/- trop. case.

Passionfruit: Q'land and N.S.W., 7/- to 12/- half bushel.

Pineapples: Q'land. 6/- to 12/-.

Rock Melons: N.S.W. 6/- to 8/- bushel. Cal. Creams to 15/- trop. case.

Tomatoes: N.S.W., North Coast, 3/- to 4/-, few higher. Local, 1/6 to 4/- half case.

Cucumber: N.S.W. (Apple), 2/- to 3/6 half case; Long, 1/- to 3/- half bushel.

VICTORIA.

Market Report for December.

ON THE WHOLE, the closing of 1935 marked a very satisfactory condition in the wholesale fruit market. There was no decided pre-Christmas rush, but business was brisk, and both supplies and demand were up to expectation. A week of warm weather induced activity just before the holidays, and good clearances were made. The quality of supplies was very satisfactory, and few complaints were registered.

Citrus. All varieties sold well. Valencias were well supplied, and prices were firm. Very few Mediterranean Sweet Oranges appeared, but what arrived were met with good prices. Lemons had a light demand, but were not over-supplied. Grapefruit demand was good for best quality fruit, but weak for medium and poor samples.

Stone Fruits. There was a shortage of Peaches, which maintained fair prices. Apricots registered high for large sizes, but a glut of small fruit was experienced, with corresponding low prices.

Cherries sold well, demand and quality satisfactory.

Pineapples. Supplies were above normal for December, and prices eased accordingly.

Apples. Old season supplies were firm, and sold well.

Tomatoes. Supplies fair, prices satisfactory. Very few S.A. Tomatoes towards the end of the month, but local supplies kept up.

Asparagus. Supplies petered out around Christmas; prices had been good, and a normal demand cleared all available supplies.

Peas and Beans kept up good sup-

plies, prices firmed in December and maintained the demand.

Melbourne (2/1/36).—The following prices are quoted by the Wholesale Fruit Merchants' Association—Per Case: Apples, eating, 9/- to 12/-; cooking, 7/- to 10/-. Apricots, 3/- to 7/-, choice higher. Bananas, double case, green, best, 5/- to 9/-, few higher. Cucumbers, 3/- to 5/-. Grapefruit, 6/- to 14/-, special higher. Lemons, 5/- to 8/-, few higher. Oranges, Vals., 6/- to 13/-, few higher. Passionfruit, 18/- to 30/- a case, few higher. Papaws, 12/- to 16/- double case. Peaches, 3/- to 7/-, few higher. Pineapples, 7/- to 10/-, few higher. Plums, 4/- to 8/-. Tomatoes, Vic., per case, 5/- to 8/-; choice, 10/-. Nectarines, 6/- to 8/-, few higher. Mangoes, selected, 7/- to 9/-.

The Melbourne market manager of the Federal Citrus Council of Australia reports that sales of Oranges were slow. Prices were as follows:—Vals., average standards, to 8/- and 9/-, few 10/-. selected, to 11/-; specially selected, to 13/-, few 14/-. Grapefruit: Standards, slow, to 8/- and 9/-; selected, to 10/- and 11/-; a few specially selected to 15/- and 16/-. Lemons, average standards to 7/- and 8/-; good standards to 9/-.

QUEENSLAND.

Brisbane (21/12/35).—Messrs. Clark & Jesser report as follows:—During the month the main business of the market has been in stone fruit. Cherries have been in heavy supply, also Plums, Peaches and Apricots. In the early part of the month prices for all these lines were very low, but

at the present time there is a decided improvement in values.

The supply of Oranges has kept up well, and these have met with a good demand for some time past. Owing to the large quantity of stone fruit available the demand has fallen off for Apples.

The ruling prices at present are:—Apples: Vic. Yates for 2½ size, 14/- to 16/-; Tas. Demos., 2½ size, 15/- to 16/-. Oranges: For sizes 10 to 13 doz., 8/- to 9/-, 15 to 17 doz., 6/- to 7/-, small 4/- to 5/-. Peaches: Wiggins, 5/- to 7/-; others, 3/- to 5/-. Plums: Wilson and Santa Rosa, 6/- to 8/-. Nectarines, 5/- to 7/-. Cherries, Florence, 5/- to 6/-. Margarets, 6/- to 7/-. Cooking Apples: Stanthorpe, 7/- to 8/-. Tomatoes, choice 7/- to 8/-. Pineapples, smooths 8/- to 9/- case, roughs 9/- to 10/-. Water Melons, large 12/- to 15/- per dozen, smaller sizes 8/- to 12/-. Cabbage, Stanthorpe 7/- to 9/- chaff bag. Beans, 9/- to 10/-. Peas, 7/- to 8/-. Cucumbers, 4/- to 5/- bushel case; Papaws, 4/- to 5/- dump case. Carrots have been scarce,

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.
Manufacturers IXL Jam and Canned Fruits.

Hop Factors—largest Cool Stores for Hop Storage in Commonwealth.
All Orchard Supplies available at all times.

Agents for—Associated Evaporated Apple Manufacturers, Eagle, Star & British Dominions Insurance Co. Ltd., Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osake Shosen Kaisha.
Correspondence Invited.

H. JONES & CO. PTY. LTD.
Hobart.

Highest Prices. **A. S. BARR** Prompt Returns.
FRUIT EXCHANGE, BRISBANE, QUEENSLAND.
Wholesale Fruit Merchant and Growers' Agent.

A Trial Solicited. Returns Speak for Themselves. Shipping No. 19.
Established 1888. Registered Telegraphic Address: "Barr, Brisbane."

ROBSONS LIMITED
(Wm. Robson, Managing Director.)
Guarantee Satisfaction to Clients. Send us a Trial Consignment.
FRUIT EXCHANGE, BRISBANE, QUEENSLAND.
Account Sales and Cheques Sent Promptly.
Shipping No. 28.

F. CHILTON

ESTABLISHED 1894

FRUIT COMMISSION AGENT

Licensed under Farm Produce Agents Act

Highest Market Prices

Prompt Returns

Reliable Advice

Registered Address for Telegrams and Cables.

References:—Bank of N.S.W., Haymarket, Sydney
and Growers throughout Australia

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and owing to the high price ruling on the southern markets the price here has been maintained at a good figure.

The past few weeks have been the busiest Christmas season in the fruit trade experienced here for some years.

WESTERN AUSTRALIA.

Perth (27/12/35).—Apples: Yates, dumps, 5/- to 11/-; Citrus: Vals., flats, 2/6 to 6/6, dumps 4/- to 9/9 (special to 10/-); Lemons, 3/- to 11/6 (special to 12/-). Stonefruit: Peaches 3/- to 8/6 (special to 11/-, inferior from 1/-), Apricots 2/- to 8/- (special to 11/-, inferior from 9d.), Plums 3/- to 11/- (special to 12/-, inferior from 17/-). Other Lines: Tomatoes 1/6 to 7/-, Grapes, open, white, 4/- to 8/-, closed, 3/- to 3/6; Passionfruit, 15/- to 19/-.

SOUTH AUSTRALIA.

Adelaide (3/6/36).—Apples (eating) 5/- to 7/- case, do. (cooking) 5/- case; Apricots, 5/- to 6/- case; Bananas (Q'land), 12/- to 16/- case; Grapes (dark), 8/-; Lemons, 10/-; Oranges (common), 7/- to 8/-; Passionfruit, 20/-; Peaches, 10/-; Pears (eating), 7/-; Pineapples, 14/-; Plums (light), 4/-, do. (dark) 4/-, do. (Japanese), 6/- case.

NEW ZEALAND.

Dunedin (27/12/35).—Messrs. Reilly's Central Produce Mart Ltd. report as follows:—Retailers advise exceptionally busy period prior to Christmas. Very heavy consignments of fruit to hand, with prices satisfactory. Unfortunately, owing to the extremely hot weather being experienced in Central Otago, some of the fruit is arriving in an over-ripe condition.

Large consignments of Peaches, Apricots and Cherries arriving. Some beautiful samples of Cherries were received. Pottle Raspberries have a good demand; Strawberries are practically finished. Tomatoes are in demand.

Apples are finished for the season, and it will be some time before the new season's supplies are available.

Ripe Bananas had an exceptional inquiry, and supplies are now practically cleared.

Shipments of Pineapples are coming to hand, and meeting a fair inquiry.

Vegetables have little inquiry.

Prices (bushel and American cases)—Cal. Lemons 50/-, N.Z. Lemons 12/- to 15/-; Bananas, 30/-; Cal. Grapefruit, 40/-; Cal. Grapes, 30/-; Cal. Navels, 38/6 to 42/6.

N.Z. Market for Citrus.

Report by Mr. F. B. Mackenzie.

At the December meeting of the Board of the Fruitgrowers' Federation of N.S.W., the following report, submitted by Mr. F. B. Mackenzie, of Kurrajong, was adopted:

IN THE EVENT of the N.Z. market being made available for N.S.W. citrus fruit on the quota basis, bearing in mind that some authority would have to control the export, and allot quotas, and being keenly desirous of allowing every grower an equal opportunity, provided the standard of fruit and its quality is right, of sharing in the possible benefits, I would place the following suggestions before the Board for consideration:—

- (1) Recognition by the Department of Commerce of the Federation as the controlling authority for N.S.W.
- (2) Granted the above, the Federation to set up a committee of four (4) one from each district, that is, Central Coast, Cumberland, "The Area," and Hawkesbury to direct the proposition.
- (3) All applications for a share in quota, would be handled by this committee; standards set, these must not be beyond the reach of individual growers, and all matters connected with the shipping and consigning of the fruit.

Further, it should not be beyond the ability of this committee to go into the question of supplying the various centres in New Zealand in accordance with the demand, members will appreciate that in New Zealand there are several centres of distribution, the largest being Auckland and Wellington, the others of considerable size being Christchurch and Dunedin, to smother any one centre would be a fairly easy thing to do, obviously, though the subject may be somewhat thorny, the suggested committee would have to consider the question, and that early.

It must be clearly understood, that if the suggested committee is only going to be another body, superimposed on the growers, I would not favor it.

It must definitely be of service to the growers, at a minimum cost, and fill the position, more effectively than other interests, which will undoubtedly spring into new or renewed life, should the embargo be lifted, and a free or quota market be opened.

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Firms in the Fruit Trade.

GEO. LISTER PTY. LTD.

(No. 5 of Series.)

ALTHOUGH now owned by Mr. J. R. Vail, who acquired the business in 1927, the original business was launched by Mr. George Lister in 1883, then in the Western Market, and is therefore one of the old established fruit firms of Melbourne.

Mr. Vail's experience in fruit marketing is not confined to Australia. He has studied this business in many countries, having travelled extensively for the specific purpose of comparing methods of production, marketing and distribution of fruit in other countries.

In Covent Garden, London, Mr. Vail was general manager for Samuel Larkinson Ltd. from 1920 to 1924, after three years' previous experience in the wholesale marketing of fruit in London, so that Mr. Vail brings to his service to Australian growers and buyers a rounded experience gained in a market which has the world for its choice.

Good Fruit Brings Good Prices.

Lister's claim that quality tells in every case, and that quality fruit is more satisfactory for the grower, the wholesaler and the retailer, and that the buying public will consume more fruit if it is got to them in good condition and is the best of its variety; therefore, their advice to growers is that by presenting good fruit they will receive good prices.

The firm has built up a reputation, over a long period, which has won the confidence of their regular clients and has ensured their continuance as accredited agents for almost every growers' organisation throughout the Commonwealth.

Associated with Mr. J. R. Vail in the business of Lister's Pty. is his brother, Mr. Cecil Vail, who heads the sales department, and is in constant personal contact with both growers and buyers, by whom his judgment and popularity are endorsed.



Mr. J. R. Vail.

Geo. Lister Pty. Ltd. are located at No. 12 Wholesale Fruit Market, Melbourne, and are always pleased to talk business with both old and new clients. Letters or personal interviews are invited by Mr. J. R. Vail, who personally directs the service of the firm to its numerous customers.

VICTORIA MARK FRUIT CO.

The first annual meeting of the Victoria Mark Fruit Co. was held at the C.T.A., Melbourne, on December 30, Mr. W. A. Thiele presiding.

Directors were re-elected as follows:—Messrs. W. A. Thiele, W. P. Mair, W. B. D. Jarman, G. C. Karnaugh, F. Cave, R. Vail and E. W. Thompson.

Mr. G. H. Anderson was reappointed manager and secretary, and Mr. T. A. Sellick auditor.

FRUIT-PICKING BAGS.

Growers will be interested to know that the efforts made to induce the Federal Government to remove the sales tax of 5 per cent. from fruit-picking bags have been successful, and that the manufacturers of the "Bay View" bag are giving the growers the benefit of this saving.

The "Bay View" Picking Bag has now been in use for many years, and still retains its place as the most popular bag on the market. It is made of best materials, and therefore can be relied on for useful service for many a long day. As shown in the illustration on another page the bag is designed by means of the cross webbing, to take the weight of fruit on the shoulders, not on the neck. The bottom has a full way opening for discharging the fruit. When picking is in progress this is folded up to complete the bag; when filled the flap is released, allowing the fruit to be gently rolled into the case.

Experienced growers consider that with the "Bay View" Bag the fruit receives the minimum of handling and

is less liable to damage; further, that they are a great time saver.

The "Bay View" Bag is manufactured by Fotheringham's Pty. Ltd., of 118 Charles-street, Launceston, and the principal distributor on the mainland is F. R. Mellor, 440 Elizabeth-street, Melbourne, C.1.

TRADE WITH INDIA.

Big Possibilities if Shipping Facilities Improved.

Mr. Anderson, a member of the Australian Trade Delegation which visited India, stated recently that his impression at Calcutta was that there were great possibilities for Australian fresh fruits, tinned fruits, jam and other foodstuffs.

The lack of direct shipping from Australia to ports in the Bay of Bengal had hampered trade previously, but the service of the British-India Navigation Company which will start next month and whose ships will provide for the carriage of refrigerated cargo would enable a much greater quantity of Australian goods to be sold on the Indian market.

A doctor told a man that he would have to give up coffee. Noting the man's sorrow, he said that he would give him a substitute.

Some weeks later the man called round again.

"Well," said the doctor, "how did you feel since you gave up coffee and started drinking the substitute?"

"Not so well," replied the patient. "I wouldn't mind giving up the coffee if I hadn't got to drink the substitute."

The Home Circle

The Endocrine or Ductless Glands

(By Lois—No. 5)

[Last month our contributor on dietetics and health, discussed Tonsils and the Appendix, and their use and misuse, and promised readers a tribute to the importance of the Endocrine glands. The following article will be read with interest.—Ed.]

AS THE STUDY of the ductless glands is such a large one, it will be wise for us to extend the study over several issues. That they are of such paramount importance in the human organism, is being proved by a great and noble army of scientific research investigators, and the application of their carefully won knowledge has contributed greatly to a lessening of human suffering.

The Discovery of the Ductless Glands.

The existence of certain glands has been known to man from very early times, but their real purpose, until quite recently, had not been understood. These glands belonging to the lymphatic system, such as the salivary glands in the mouth, the tonsils in the throat, those in the intestines, and the appendix, which had tubes or ducts leading from them, revealed an evident purpose, and about their value there was no doubt. The other system of glands had no ducts or tubes, and were called "ductless," and because they had no outlet, they seemed to baffle their investigators, and so remained shrouded in mystery.

As early as 1776, Dr. Borden, an eminent French investigator, as the result of his investigations, claimed that each of these glands manufactured its own particular secretion, and conveyed it directly into the blood stream for distribution through the body, and he emphatically affirmed that these fluids were essential to human life.

The Secret Moulders of Personality.

There are very many reliable investigators who agree and affirm that the "ductless gland" system of the body is one of the most important regulating factors of both physique and personality, and all the evidence that science is producing to-day confirms the fact that man is a creature of his glands of internal secretion, and that they hold the secret of our personalities.

Thyroid Gland "The Energiser."

The best known of the ductless glands is the thyroid. It lies across the front of the neck over the wind pipe, and normal people—to keep normal—must always have a minute quantity of thyroid secretion present in their blood. A lack of this fluid from birth, produces what is known as a cretin. The child, even though it has an old expression, fails to grow, and has dry parchment-like skin, its features are pudgy, the eyes watery, it is abnormally sleepy, the gums grow thick, and the tongue protrudes, and as it grows it even becomes more repulsive in appearance, with a low mentality.

If this gland should fail to act, even in adult life, the same conditions are produced. Mental processes become dull and torpid, the features coarsen, and the whole body becomes thick and heavy with a tendency to put on excessive weight. If the other extreme should happen, the thyroid becoming over active the individual is alert, bright and intelligent, with a tendency to be highly strung and emotional, with a slim nervous frame,

moist skin, and silky hair. The eyes become bulging in most cases, and a condition known as "oxophthalamic goitre" ensues. In these two extremes we get a vision of what an important part one gland can play in our physique and personality.

The Parathyroid Glands.

Closely associated with the thyroid glands and only just recently discovered are four other tiny glands called the parathyroids, and even though they are so small, they control all the calcium (lime) supplies of the body. A defective functioning of these glands causes the hair to fall out, bones to soften, extreme restlessness and irritability, trembling and inability to sleep. Observation has shown that the calcium content is below requirement.

The evils of white sugar was pointed out in a previous issue. It has an affinity for calcium, and because of this it preys upon and robs the blood of its precious calcium content. It is a chemicalised, devitalised substance, and is not a true food at all, therefore it should have no place whatever in the human body, so if you would keep your parathyroid glands healthy, avoid white sugar as you would a deadly poison, for that is its real nature.

The Responsibility of Parenthood.

The responsibility of parents to their offspring cannot be over stressed, and no apology is offered for the reiteration of this fact, that if the mother would learn the proper functioning of every part of her being, and apply the knowledge, she would prepare herself for this high and noble office, and give to the little body that she is building, its natural birth-right—a healthy body. With this high ideal as her objective, a race of charm and beauty would be produced. Anatole France once pointed out that a butterfly dies at the height of its beauty, but man shrivels into ugly, wrinkled, doddering senility. There is much food for thought in that statement.

True Education Needed.

These glands hold the secret of our well being, and there is now no mystery concerning them, and the role they play in human happiness. A balanced natural diet will correct and keep in perfect health all these defects of humanity, and when "endocrinology" becomes a real education and a real science, we shall add, not so much more years to life, as more life to years. We shall keep our vitality, sparkle, memory and charm right to the end, and our "passing" will only mean a "handing back of our breath." In next article I shall continue upon the ductless glands. Do not neglect to read about them, they are important.

HEALTHFUL MEAL COMBINATIONS.

Stuffed Tomatoes.

Select as many large Tomatoes as required. Almost cut off the tops, leaving attached as a hinge. Scoop out the centre, fill with whole-meal bread stuffing, replace lid, place in casserole, dish, pour over melted butter and bake for one hour. Serve with sauce made of Tomato pulp and chopped parsley, cooked green peas, and poached eggs.

Cheese Cauliflower.

Line a casserole dish with freshly-cooked green Cauliflower leaves, arrange the flowerets evenly, pour over whole-meal sauce, sprinkle liberal grating of cheese, place in oven until brown. Serve with diced cooked carrots and baked jacket potatoes.

Marrow Rings.

Cut a Marrow crosswise in rings about 2 inches thick. Remove skins and seeds, place in roasting dish, fill rings with wholemeal bread stuffing. Put on top $\frac{1}{2}$ Tomato, flat side down, surround with melted butter and baste, but do not turn. Cook for full hour in fairly brisk oven. Serve with brown onion sauce, steamed Spinach and baked Beans.

Wholemeal Bread Stuffing.

Soak some wholemeal bread (stale) squeeze dry and crumble, a pinch of salt, add one egg beaten to two cups of crumbs, a little pepper, one good tablespoon chopped Parsley and grated Onion.

:: :: :: ::

Use Marmite for coloring and flavoring savory sauces.

I think the greatest peace is found
By those who live near to the ground,
Who find their work and play and
rest

Close to the kind earth's warm, brown
breast;

Who work with flowers and trees and
grain;

Who feel the summer sun and rain;
Who hold dumb creatures in their
care,

And plan for them a daily fare;
Who read with understanding eyes
The changing message of our skies,
And see in earth from sky to clod,
The open, living books of God.

—Mary E. Rock, in "Pacific Rural
Press."

Helpful Recipes

Jam-making Hints in a Nutshell.

Apple: $\frac{1}{2}$ to 1 lb. of sugar to 1 lb. of fruit; when peeled or cored, 1 gill of water to each pound of fruit.

Apricot: Equal weight sugar to equal weight fruit, after stoning, 1 gill of water to each pound of fruit.

Blackberry: Equal weight fruit and sugar, no water.

Cherry: Equal weight of sugar to equal weight of Cherries after stoning; 1 gill of Red Currant juice to each pound.

Currant: Black, equal weight of fruit and sugar, 1 gill of water to each pound of fruit.

currant: Red, equal weight sugar and fruit, no water.

Grape: Unripe, $\frac{1}{2}$ lb. sugar to each pound of fruit, no water.

Gooseberry: Equal weight sugar and water, 1 gill of water to each pound of fruit.

Greengage: $\frac{1}{2}$ lb. of sugar to each pound of fruit, no water.

Plum: $\frac{1}{2}$ lb. of sugar to each pound of fruit, no water.

Quince: 1 lb. of sugar in each $\frac{1}{2}$ of fruit, water to cover bottom of pan.

Raspberry: Equal weight sugar and fruit, no water.

Strawberry: Equal weight sugar and fruit, no water.

Rhubarb: Equal weight fruit and sugar, $\frac{1}{2}$ gill of water to each pound of rhubarb.

APPLE SALAD.

Take nice red Apples, scoop out centre and fill with the following mixture:—One cup celery cut fine, one cup chopped Apple (chopped with a silver knife), one-half cup chopped Peanuts and about three tablespoons of French dressing to marinate. Mix well and fill the Apple shells. Serve on bank of lettuce and garnish with paprika, parsley finely chopped, yolk of egg, grated Lemon, etc. Put spoonful of mayonnaise on top of each Apple before garnishing.

Beekeeping

HOT WEATHER ADVICE.

Hive Ventilation Necessary.

WITH the coming of hot weather, beekeepers will do well to note the advice contained in the N.S.W. Agricultural Notes for December.

It is necessary to provide ample ventilation in the hive for the bees during the summer months, particularly during heat waves. When bees cluster outside the front of the hive it is ample proof that the colony is suffering from insufficient ventilation. Provision of additional ventilation is simply a matter of raising the hive-body from the bottom board at the entrance and inserting a couple of thin wedges at each corner. An extra $\frac{1}{4}$ inch in the depth of the entrance may make all the difference.

Another question of importance at this time of the year is that of water supply. In the vicinity of towns and villages, where bees may cause a little trouble about the neighbors' water supplies, or where bees have to travel a distance during the warm weather, it is advisable for the beekeeper to provide a supply convenient to the apiary and encourage the bees to use it. A large quantity of water is used by bees during the hot weather. An effective type of container is one consisting of three compartments, the centre one filled with water, and the two end ones, to which it is connected, with gravel and sand. The water compartment is kept covered, the bees obtaining supplies through the moist contents of the compartments at each side.

"SWARMING IN BEES."

Modern beekeeping demands that swarming be kept strictly under control, if not entirely eliminated, otherwise the crop of honey will be bound to suffer. The apiary of the haphazard beekeeper quickly becomes peopled with the progeny of stocks which have swarmed. It is obviously desirable to breed from strains of bees which are not inveterate swarmer, but this is not enough. Many operations and methods of management have been advocated from time to time as systems of swarm control. The best of these have survived, others have quickly lapsed into obscurity because they are only partly effectual, because they entail too much labor when the beekeeper has but little time to spare, or because they tend to diminish the honey crop to an even greater extent than the issue of swarms would have done.

MOVING BEES.

When young bees take their first flight they circle round and round the hive entrance taking landmarks and bearings so that they will be able to find their home again. When the distinguishing objects are noted they will fly back and forth without noticing their immediate surroundings, only looking for them on the return flight, so that if a hive is moved only a few yards the field bees will always go back to the old position. Therefore if the apairist wishes to move any hives only a short distance, within 1 to $\frac{1}{2}$ miles, he must take precautions to prevent them returning to their old site.

One method is to confine them to the hive for about five days by tacking wire mesh to the entrance. This is most unsatisfactory, mainly to the loss of time, especially during the honey flow when the loss of five days would certainly affect the production. Furthermore, in the event of hot

BEEKEEPING—

(Continued from Page 39.)

weather the bees are likely to crowd the entrance and suffocate. In the event of warm weather it would be necessary to tack mesh across the top of the hive and take the lid away.

There are several other methods which would probably be more satisfactory. One is to place grass over the entrance so that the bees have to fight their way out. The bees on finding this obstruction immediately recognise that something is amiss and start looking around and notice the unfamiliar surroundings, so take new bearings. The same effect may be obtained by placing bushes across the entrance of the hive.

But probably the best way is to move the hive to a distance of about two miles, leave it there for a few days, and then return it to the new site.

The Pig Pen

Hot Weather Precautions.

Shade: During the summer adequate shade for pigs is essential. The ordinary sty, especially if it has an iron roof, is very hot, and some other shade is necessary in the heat of the day. If no trees are present, a wooden shed will answer the purpose.

Another important aid to the health and comfort of pigs is a bath in which they can lie in hot weather. To wallow in the mud is the pig's natural method of cooling himself, and if the pig-yards have a frontage to a stream, well and good, though there is an objection to pigs wallowing in a stream, insofar that infection may be carried down from diseased pigs higher up the stream, and as a result contagion spread over a wide area.

Unfortunately, the hog wallow usually seen on the pig farm consists of a filthy puddle-hole, into which drains all the excrement from the yards, and in the foul mud of this, the only wet spot available, the pigs are compelled to seek relief. If there is infection of any kind in the yard, it is to be found in just this place.

Such wallows should be drained and filled in, and if there is no naturally clean place for the pigs to lie in, a concrete or similar bath should be built. This can then be kept clean, and the liability to infection from contagious disease will be diminished.

Comfortable and hygienic conditions are most important in maintaining the health and well-being of pigs.

Heat Apoplexy: Heat apoplexy is a disease of pigs which is due to insufficient shelter and shade in hot weather. It occurs in very fat animals, and is most likely to be noticed if the pigs are exercised or travelled in the heat of the day; but it may often be seen in pigs without exercise if they are exposed to the hot sun without shade. There may be few warning signs, the fat pig simply falling over and becoming unconscious. The condition is serious. Water poured over the head and snout will often be beneficial. Whisky or brandy in doses of a dessert to a tablespoonful may be given, or any other stimulant which is available.

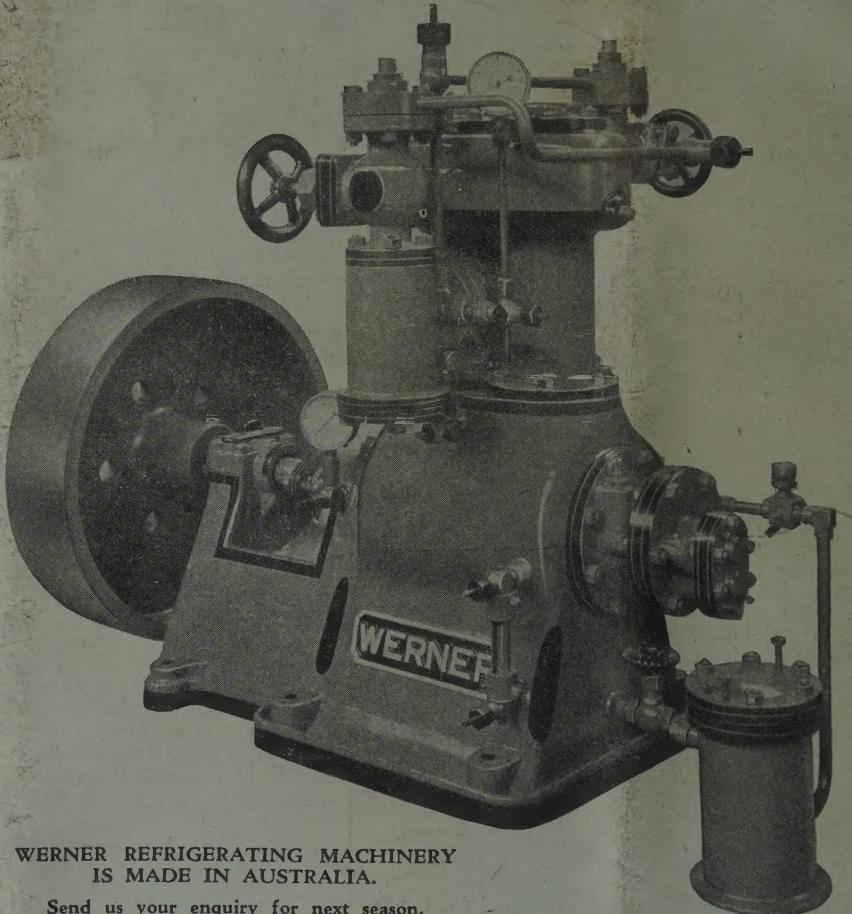
Nervous Disorders.

Young pigs often lose condition rapidly because of some nervous disorder which is caused by indigestion or the irritating sores from the accumulation of lice inside the ears. Other causes may be a severe attack of nasal catarrh or irritation after dirt enters skin that has been scalded or sunburnt. Sometimes an over-

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grown tooth, or one broken or jagged, causes deep-seated abscesses and much pain to the young pig.

Again, in cases where the animal has suffered a severe attack of pneumonia or pleurisy, the lungs may have become attached to the walls of the chest; thus every movement causes severe pain.

Pigs suffering from any of these ailments will soon prove unthrifty, and the sorting out of the possible cause so that it can be treated is difficult. Skin troubles of any sort can be relieved by the application of healing ointments; bowel disorders by the use of castor oil; and others by careful feeding, housing, and plenty of attention.

THE AGE OF PIGS.

At birth, a pig has four small tusks and four corner teeth. At one month old 12 temporary molars are cut, three on each side of the jaw, top and bottom. At two months the temporary central incisors, or front teeth, are fully grown.

The lateral incisors begin to appear, and at three months the first set of teeth is fully grown. At five months the first permanent tooth appears behind the temporary teeth. At seven months the permanent corner teeth appear, and are well developed at nine months. The permanent tusks may then be seen through the gum. The central permanent incisors are cut at twelve months.

At 14 months the permanent lateral incisors take the place of the temporary ones. These will be fully up to about 18 months. At two years the side teeth are worn quite level with the central incisors, and signs of wear may be noted on the other molars. After this age one has very little to go by.

FOOD AT LOW TEMPERATURES.

Sir William B. Hardy, F.R.S., in the course of his presidential address to the British Association of Refrigeration in London on October 25, dealt with some recent developments in the

scientific investigation of different food commodities at low temperatures.

Dealing with Apple storage, Sir William referred to a peculiar influence found to be exercised by the Apple, which he referred to as a kind of magic. The why and wherefore of the phenomenon, he said, was a biological puzzle, and yet it had obvious practical commercial significance. Sir William continued: "A stream of air which has passed over an Apple would appear to be harmless to other forms of life, and it is sensibly unchanged chemically or physically. The appearance is wrong—the air contains some subtle emanations which profoundly influence other vegetable forms. Potatoes placed in the stream either do not sprout, or, if they do, the sprouts are misshapen dwarfs more like warts than anything else. Bananas are excited to a much more rapid ripening than ordinarily. It is only elderly Apples which pour out these emanations, and the effect on young, unripe Apples is again curious, for they are stirred to more rapid progress. They ripen more quickly. It is as though the elderly Apple were jealous of youth, and would destroy it." ("Food," Australia.)